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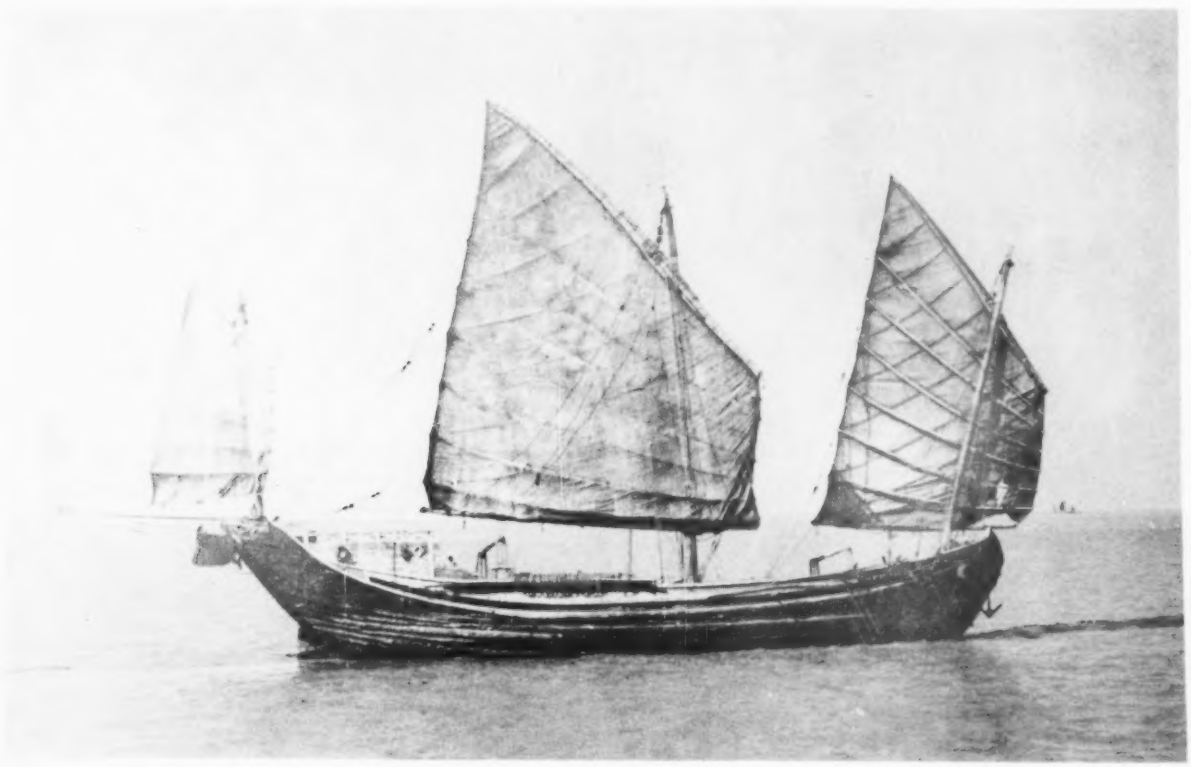
CHINESE JUNKS

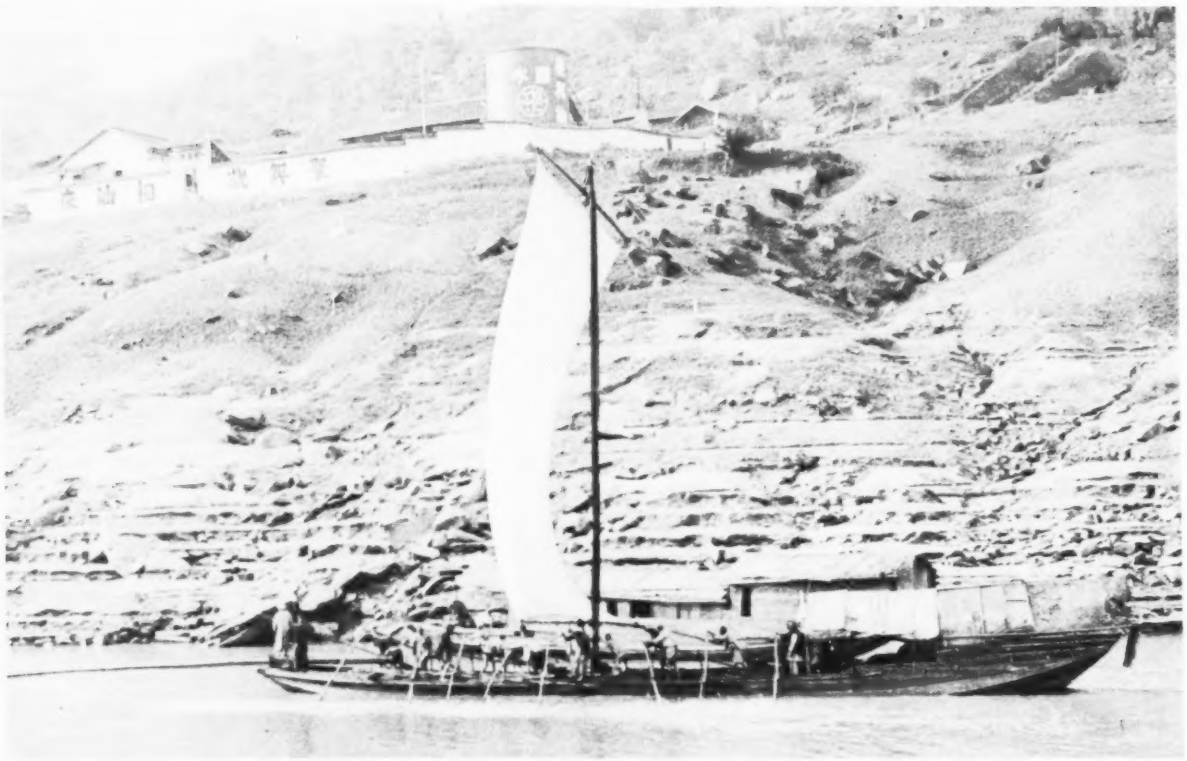
By Captain C. E. Coffin, Jr. USN

Unfortunately, Westerners are very limited in their knowledge of the fascinating Chinese sailing craft. The general term "junk" has done much to "give the dog" an unwarranted bad name. Those of us who have seen a clumsy appearing junk ghosting along under full sail in a light breeze have marveled at her speed and anyone who has seen one of these craft with full reefed sail clawing off a lea shore before a typhoon,



Hua Pi'-Ku off Wusung in 1946

have never since doubted their sailing characteristics and seaworthiness. Then again, the few of us who have seen the heavily ladened junks of the Upper Yangtze transiting the rapids up and down bound when high powered steamers hesitated to move, can certainly testify as to their stoutness and maneuverability.



Upper Yangtze Junk under sail and oars off Wan Hsien, Szechuan, 1938

History also seems to have by-passed the Asian sailing craft with a few inaccurate observations by Chinese artists and by Westerners such as Marco Polo and Matteo Ricci. Little authentic information was available until the 20th Century when certain authorities as G. R. G. Worchester of the Chinese Maritime Customs published extensive reports on Chinese craft. According to Chinese history and folklore - intermingled beyond separation - Fu Hsi (circa 2850 B.C.), one of the first of the Five Great Rulers, taught the people how to make the first boats by "hewing planks, shaping and planing wood". The first known writings of boats is from the ORACLE BONES of the Shang Dynasty (1766-1122 B.C.) which show a recongnizable sampan as the character for "boat"

Oracle Bones

Modern

"Chou" - a boat

"Cheng" - to caulk the seams of a boat

Likewise of interes, is the character "to caulk the seams of a boat" that shows two hand characters holding a single stick at the side of the "boat" character.

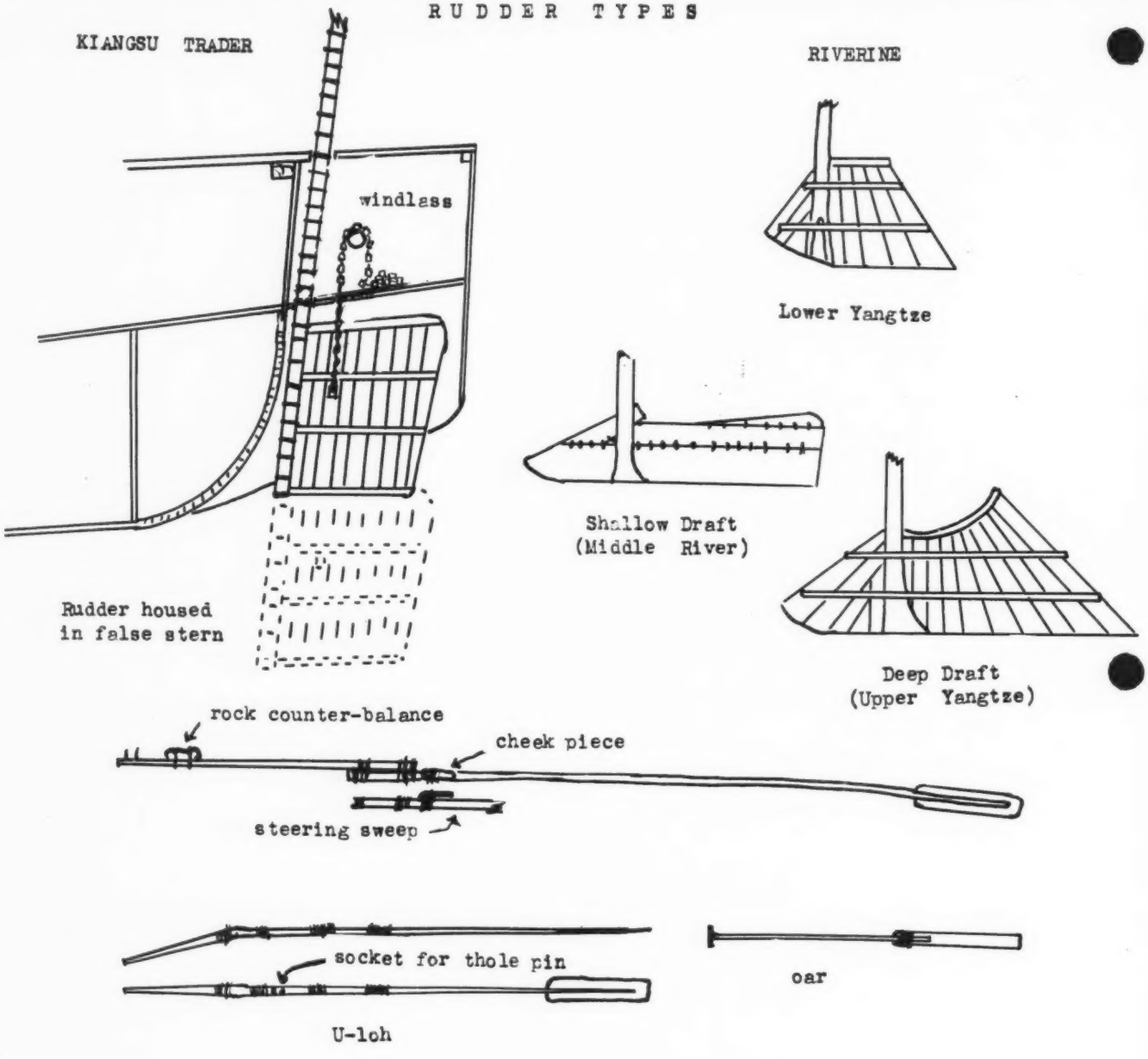
It is generally conceded that the Chinese developed the magnetic compass, watertight compartmentation, balanced rudders, retractable rudders and sail battens long before they were used by Occidentals. The Junk evolved from the sampan whose name "san" "p'an" means "three boards" - the sides and the bottom board which, according to ancient pictures, was gently curved upward to form the bow and stern.

Early san pan

To many, including sailormen who have been in Asian waters, Chinese sailing craft are of a generally standardized type; a clumsy hull, thick masts, patched sails with heavy battens and complicated running rigging

Yo Ch'ou Ch'an - tze off Ch'ang sha
(1933)

RUDDER TYPES



There are many types of junks and sampans that were developed by localities for their specialized needs. The type and general characteristic of a Junk usually proclaims its home port and builder's yard in a manner similar to the inscription on the stern of a foreign merchantman. It is almost impossible to find plans, or even "sister ships" for the reason that Chinese craft are built by craftsmen who "follow tradition" and generally build from previous experience. Changes are gradually worked in to fit existing needs until the specialized types are evolved. Small changes may result from improvisations to cover material shortages or from the requests of owners and laodahs who fancy some small improvement. Minor errors are neither too serious nor apparant and are usually fully explained by the traditional Chinese phrase "Ch'a pu to" meaning "not too much wrong".

Throughout the centuries the seagoing junks - cargo and fishing craft - have developed into a very general type typified by the square wide bow, the gracefully curved bulwarks rising to a high stern, heavy hull construction and thick masts. Most visitors to China are familiar with the high forecastle, high poop, three master, Pearl River Estuary class that has become the world-wide symbol for the Chinese Junk. Their characteristic silhouette is usually a gentle curve from the bow dropping to a point about one third abaft the bows and then rising gracefully to a high stern. Some craft, like the Peichii Trader and the Kiangsu Trader, have a false stern or transom that extends beyond the stern and is used for a platform to tend the mizzen sheets and for a windlass for the rudder.

Seagoing Junks carry a heavy unbalanced rudder extending below the keel that incidently produces a centerboard effect when under way. These rudders, in the same manner as a centerboard, are raised in shoal water to prevent damage.

Junk sails were for many years made of reed matting, but are now made of heavy canvas - preferably patched so as to appear "proper". The sails are strengthened and much improved by the use of bamboo battens. Sailing characteristics of the Junk sail are further improved by use of multiple sheets lead from the leech end of the battens to a system of multiple blocks that permit perfect control with left cordage. The systems of multiple sheets vary with the type of Junk and euphroes and blocks are used on most. Reefing is quite simple as the halliards are merely slacked off - thus lowering the sail until the proper batten is taken in. Since the sails, together with their battens, are quite heavy - the halliards are usually taken to hand capstans.

One of the important characterists of the sea-going junk is its strength and sea-worthiness. Their heavy planking, solid construction and water tight compartmentation keep them afloat long after they should have sunk by Occidental standards. In Asian wars, including WW II and Korea, it was found that it was almost impossible to sink a lightly ladened junk. At present, both the Chinese Nationalists and Communists use Junks extensively for men-of-war and auxiliaries. With the installation of an old gas or diesel engine, they can steam at five knots or so with an appreciable load of troops or supplies.

Armament varies from craft to craft and may consist of any or all of - light and heavy machine guns, mortars, field artillery pieces, light naval guns, automatic weapons (20mm, 40mm, Bofers, etc.) and the like. These vessels are quite passable as gunboats or landing ships and have been used as mine layers. Communist amphibious shipping probably consists to a large degree of sea-going Junks that have been armed and equipped with engines.

The Riverine Junks are used mostly for carrying passengers and cargo. They are seldom employed for fishing since this is accomplished mostly by means of netting from sampans and near the beach. Riverine Junks are generally flat bottom, shallow draft and have a low freeboard. Canvas and spars are light. Most river and lake Junks carry u-lch sweeps for sculling and Upper Yangtze craft may carry oarsmen on the foredeck.

All river junks and sampans carry poles for use in shallow reaches. Many are fitted for tracking (towing from the river bank by "trackers"). During such instances the tracking line is brought aboard through a snatchblock secured to a gromet on the mainmast (height controlled by halliards and hauldown) and secured aft to a large athwartships crossbeam. In some cases, the line is taken around the stern.

Most of these inland water junks are steered with balanced rudders which may be replaced or augmented, particularly in rapids, by huge steering sweeps. These steering sweeps are sometimes one hundred feet in length and consist of several timbers tied together with bamboo lashings and balanced with rocks fastened to the loom near the handle.

The Junks of the lakes and more quiet rivers are relatively lightly built and carry lighter poles with more canvas. Some of the Tungting Lake Junks carry a spread of canvas comparable to a racing yacht. The Junks of the Upper Yangtze, its tributaries and similar rivers running through extension rapids, are solidly build and well compartmented.

Heavy wales strengthen the hull fore and aft while the athwartship strength comes from numerous water tight bulkheads and strengthening timbers. The hull planking is rather roughly cut with hand tools and joined together with "U" staples. The irregularities and occasional over-large seams are caulked with a mixture of dried grass or bamboo shavings with "chunam", which is a putty of wood oil and lime that sets hard in several days.

Upper Yangtze Junks and those of T'ungt'ing Lake are not painted, but rubbed down with wood oil (pressings from the nut of the T'ung tree) presenting a tough durable finish. The Ch'ungking Sampans and many of the Upper Yangtze Junks are beautifully maintained by having their sides rubbed down periodically with wood oil until they shine.

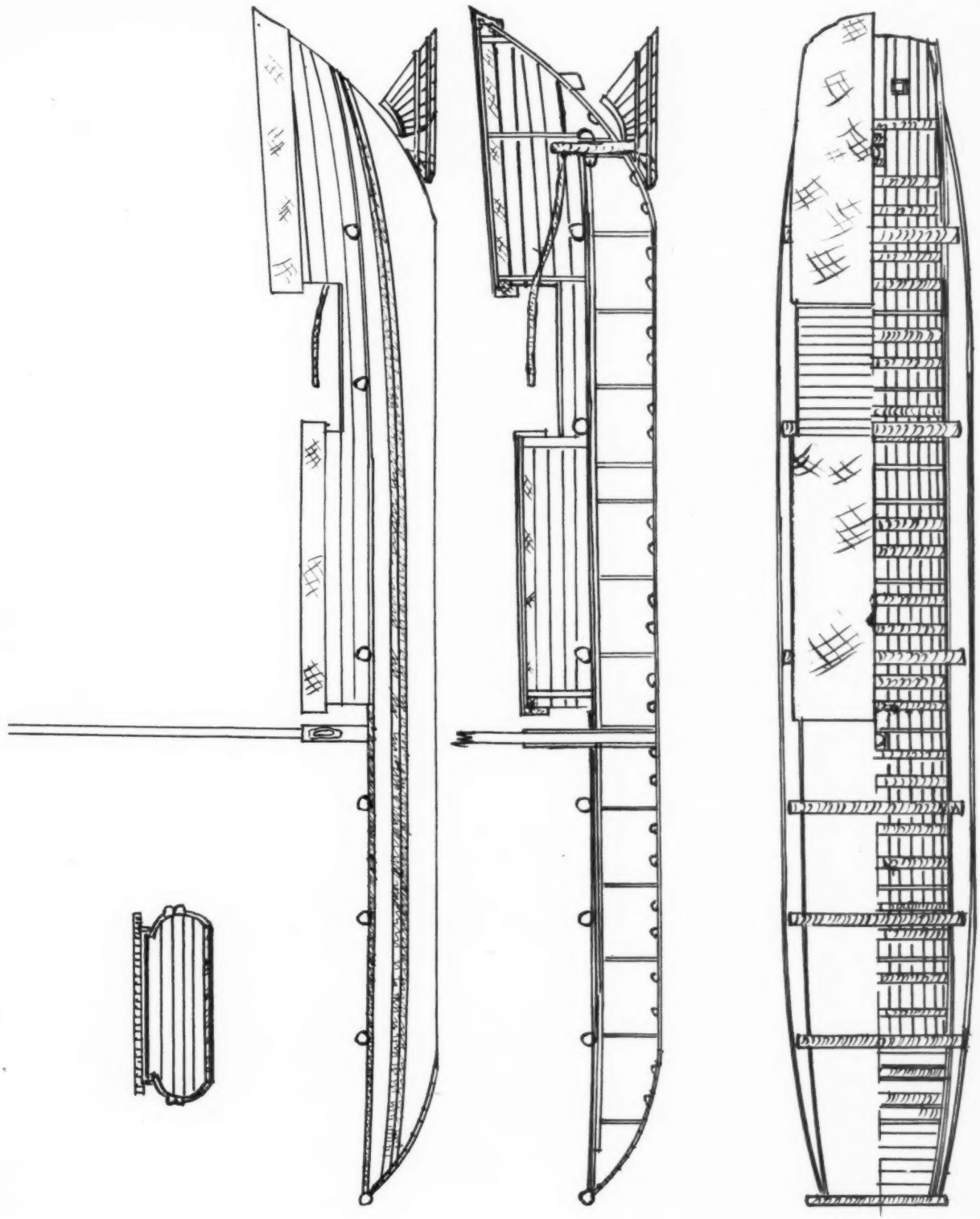
The salient features of the Yangtze Junk types are shown in the accompanying illustrations. Sketch plans included illustrate a cargo carrier of the Upper Yangtze plying usually between Chungking and Ichang, although I have seen them as far down river as Hankow. These craft vary from 36 feet to over 110 feet in length and are well compartmented with solidly built turret-type hulls of cypress. The hull is strengthened fore and aft by the inclusion of two or three heavy continuous wales of half timbers and athwartships by heavy projecting cross beams at the deck level.

The hull bottom planking is further reinforced by athwartships by half frames or half timber balks spaced between the bulkheads. The bow planking is athwartships, but the remainder of the hull, including the stern, is planked fore and aft. These craft have a balanced rudder usually augmented by a bow sweep. Downbound, they usually employ oars manned by members of the crew standing on the foredeck to maintain steerageway. Upbound, the craft are "tracked" most of the way, especially through the rapids and races. The experienced Laodah takes full advantage of the inshore backwash. Also, when upbound, full use is made of oarsmen and the single squaresail whenever possible.

River and lake sailors have developed specialized types of craft to meet their particular needs. These types range from such as the craft of the Hai Ho Basin around Tientsin which are sectionalized and jointed so as to negotiate the sharp bends of narrow canals in a manner somewhat similar to Pullman cars, to the inflated skin rafts of Hsingkiang and Tibet. Draft, freeboard, length, tonnage, general construction and the like represent the evolution of types most suited to the area from standpoint of naviagation and cargo.

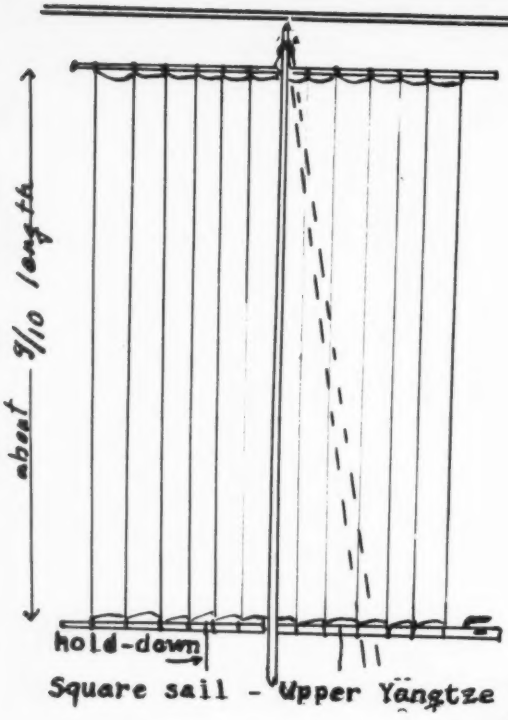
The "Four Rivers" of Szechuan have produced some notable types as the crooked bow and crooked stern junks, the fan-tail sampans and the cargo rafts. One of the most familiar of these is the Wai P'i-ku, or Crooked Stern Junk, a salt carrier of the K'ung T'an River (tributary of the Yangtze). The K'ung T'an drops some 1,200 feet in 200 miles and there are some 71 difficult rapids that can be utilized only by stout and highly maneuverable craft.

The Wai P'i-ku is 90 to 100 feet in length with about 18 foot maximum beam. Draft is limited to a few feet and capacity not usually more than 25 tons. This type of Junk is roughly, but strongly built of stout hung-ch'un (resembling English Elm) or maple. Bulkheads are built out of cypress. There is no rudder because

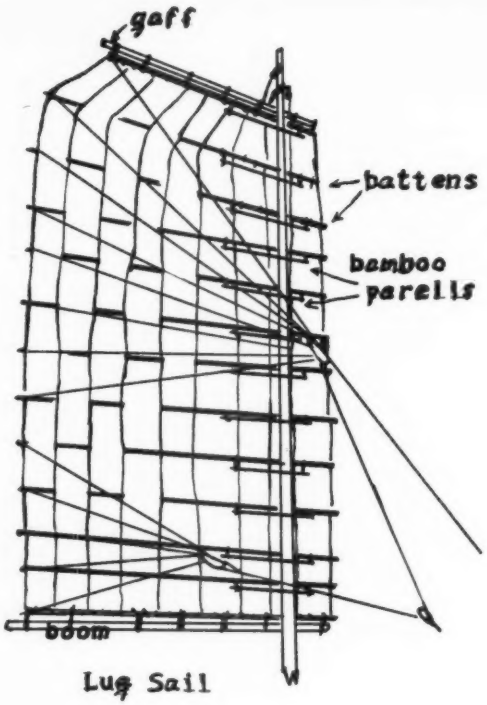


UPPER YANGTZE JUNK Sketch by Author

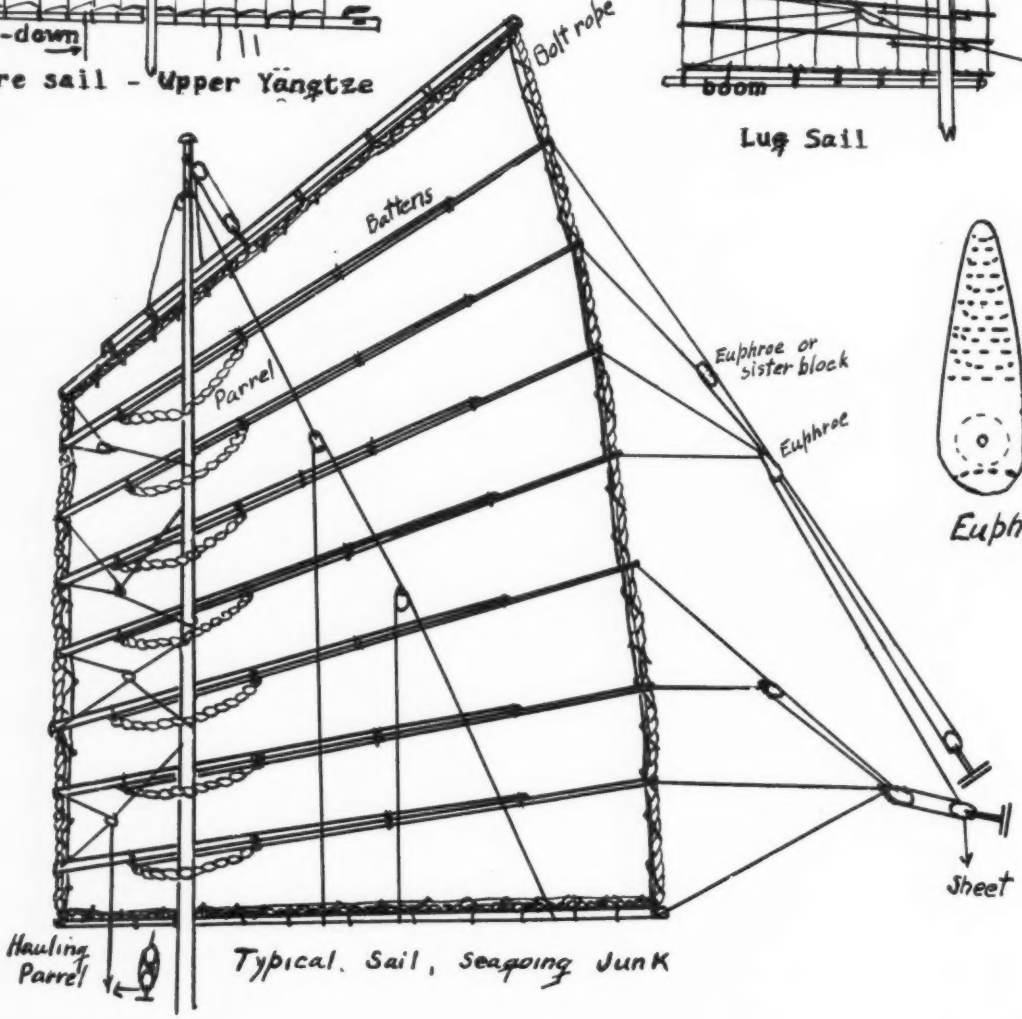
SAIL PLAN AND RIGGING DETAILS



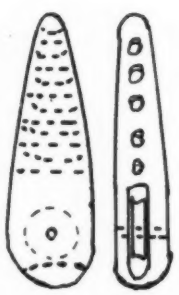
Square sail - Upper Yangtze



Lug Sail



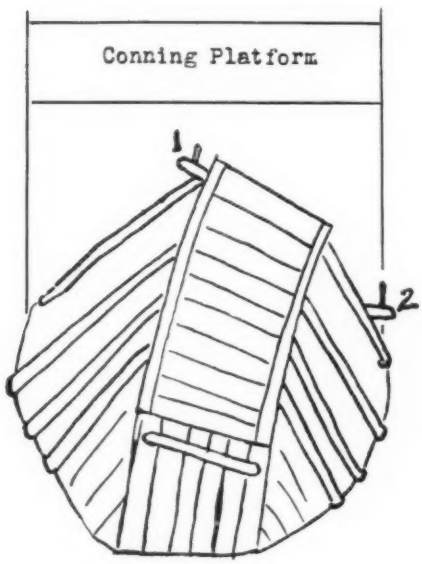
Typical Sail, Seagoing Junk



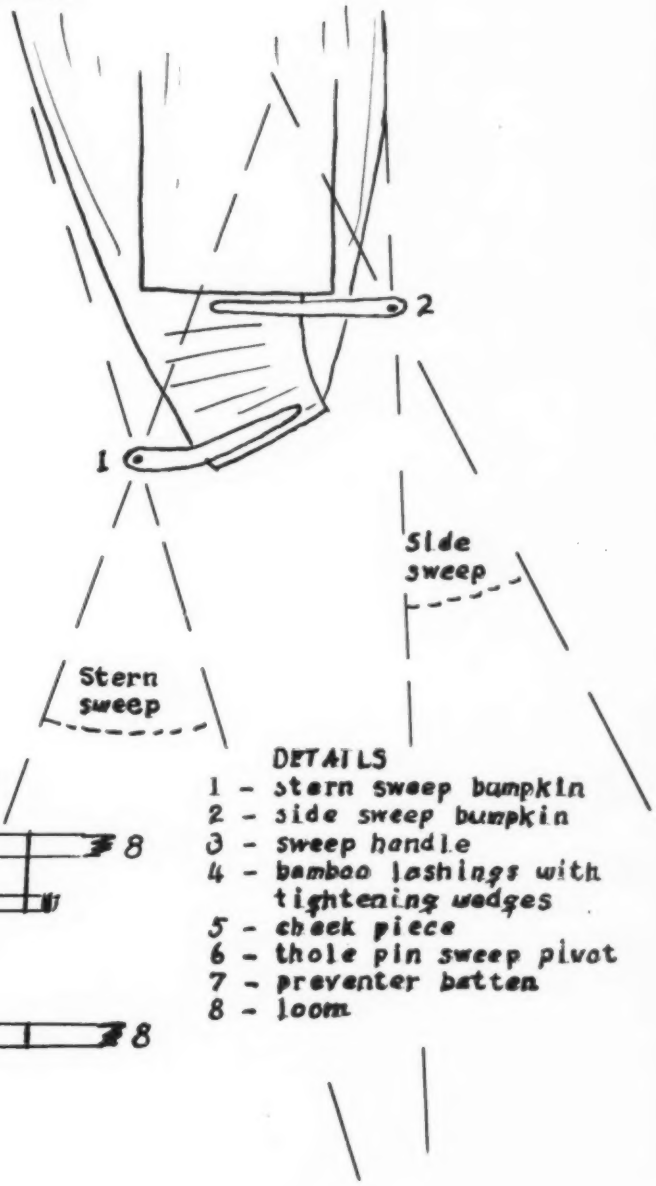
Euphroe

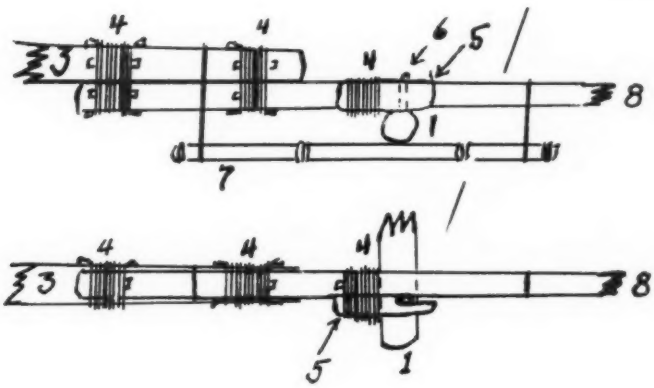
DETAILS OF THE WAI P'I-KU JUNK

Sketched by the author

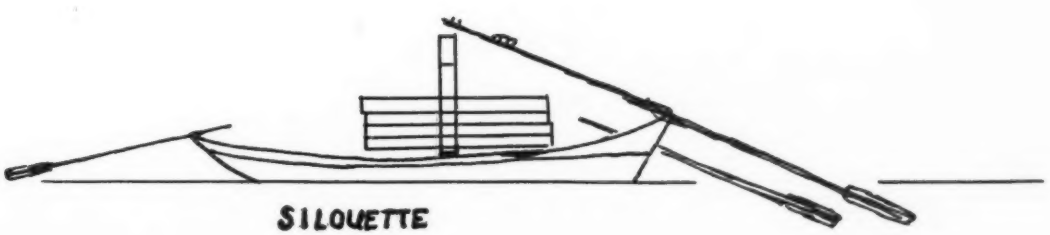


STERN VIEW
WAI P'I-KU

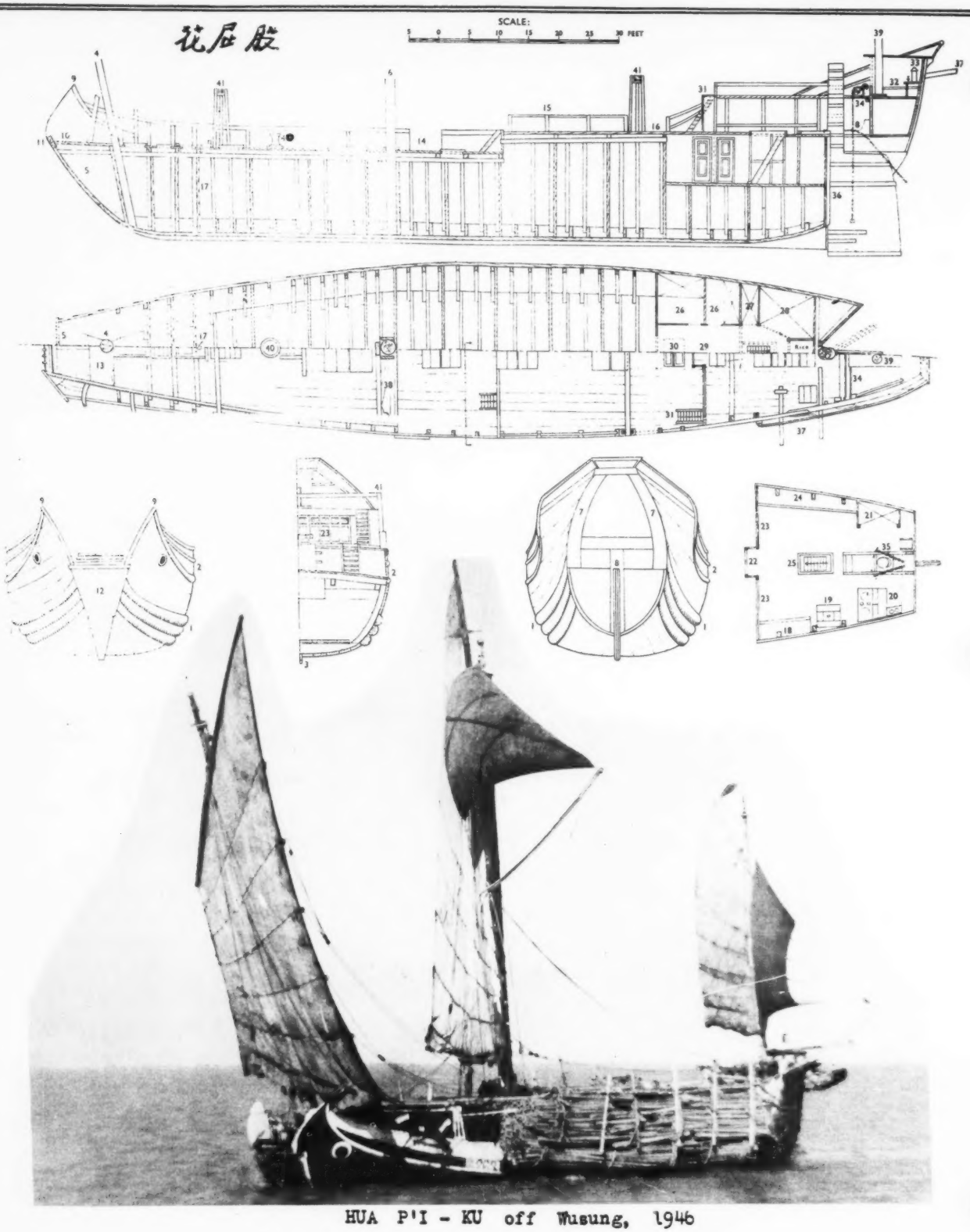




DETAILS
1 - stern sweep bumpkin
2 - side sweep bumpkin
3 - sweep handle
4 - bamboo lashings with tightening wedges
5 - cheek piece
6 - thole pin sweep pivot
7 - preventer batten
8 - loom



SILOUETTE



HUA P'I - KU off Wusung, 1946

This photograph illustrates the salient points of a Hua P'i-ku or "Foochow Pole Junk". This craft is considered on of the smartest of the seagoing junks being fast and maneuverable.

steering is accomplished by means of immense sweeps mounted fore and aft. The stern is "twisted" to starboard so that the port upper corner of the transom is raised and almost amidships. The main steering sweep, about the same length as the Junk, is pivoted on a pin set in a bumkin of an elbow of timber just to port of the raised port corner of the transom. A shorter auxiliary sweep is mounted to starboard on another bumkin just forward of the transom. The two after sweeps are placed so as to be free of mutual interference. This arrangement is said to have been designed thusly in order to navigate the dreaded "Goat's Horn Rapids". The third sweep is mounted forward.

All sweeps are balanced at the cheek piece by means of rocks lashed beween the cheek piece and the handle. Stern sweeps are fitted with preventers consisting of a bamboo batten lashed below the loom so as to prevent the sweep from being unshipped in a rapid.

The twisted stern is formed by bending the bottom hull planking (after being stapled together) at an angle so that the lower part of the transom is an extension of the bottom hull planking.

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Arrangement of Hua P'i - Ku Junk

1 - Hardwood wales
2 Lighter wales or strakes
3 Keel
4 Foremast
5 Peake tank (void)
6 Mainmast
7 Carved decorative panels
8 Hause pipe (stern moorings)
9 Bow "horns"
10 Main deck - or - foredeck
11 Stem athwartships beam
12 Triangular bow plate
13 Deck Beam and foremast support
14 Cargo port in bulwarks
15 Railing
16 Gangway ladder break
17 Fresh water bottom
18 Rice bin
19 Scuttle butt
20 Galley range
21 Bunk
22 "Pilot house"
23 Sliding doors
24 Clothes locker
25 Ladder to orlop deck
26 Bunk room
27 Bunk room
28 Bunk room
29 Passageway
30 Skylight
31 Ladder to poop deck
32 Lao-dah's (Captain's) cabin
33 Altar
34 Rudder hoisting windlass
35 Rudder tie and hoisting chain
36 Rudder
37 Sampan (boat) davits
38 Deck beam and mainmast support
39 Mizzen mast
40 Capstan
41 "Gallows' frame" boom rests

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Models of Chinese Junks

Scale model building has never been practiced to any great degree in China. "Spirit boats" were made at Wanhsian on the Yangtze and used on certain occasions as offerings to the River Dragor or for the souls of the boatmen who lost their lives in the River. Some old temples had "sailors' models" placed there as votive offerings.

The average junk "model" purchased by foreigners in Asia is unfortunately only a toy or charicature made expressly for the tourist trade. Most of these "models" bear a resemblance to the true junk only in the eyes of the unintiated -

and it is regretable that many of these products of Hong Kong and Shanghai are accepted as authentic by foreign museums. The Model Junk Guild of Inchang are the only builders, to the best of my knowledge, who construct reasonably accurate scale models. Their accurate models at one time were limited to the Ma Yang-tze and to the Ichang and Ch'ungking sampans. They would produce a creditable Dragon Boat on order, but their P'ing-ch'uan (War Junk) and their Crooked Stern Junk were not even good "sailors" models in my opinion.

It has been reported that there are accurate models of Junks in the Ouvre, the Belfast Museum and the Liverpool Museum, but the only true collection of Chinese sailing craft is the Sir Frederic Maze Collection in the Science Museum in London. The latter models were built on the spot from actual craft under the direction of Sir Frederic Maze and other officers of the Chinese Maritime Customs.

There are commercially available plans and kits for construction of Junk models and the same bear the approximate relationship to the prototype as chop-suey does to the cusine of a Peking restaurant.

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Construction of a Chinese Model Junk

as related by Mr. G.R.G. Worcester
and reported by Mr. H. V. Evans,
Founder of the Thames Ship Lovers
and Ship Model Society.

When Mr. Worcester began to make enquiries about having the model made the boatbuilders scoffed, and explained that a junk so small would not be profitable as it could not possibly carry enough salt. The explanation that it was wanted in London caused even more amazement - surely London had its own salt junks? Eventually, however, two experienced carpenters came to help, but as they had no idea of how to set about working to scale, Mr. Worcester first had to cut paper patterns of every piece of timer, scaled down from an actual junk. The model was built in exactly the same fashion as the full-size junk, and when completed was the subject of much conjecture by the local people. The general decision was that only a lunatic would have so small a junk built, but as it had been built and was now about to start on its long voyage, at least it should be launched in the traditional fashion.

Accordingly, on the appointed day a large crowd assembled, the priest came with a cockerel, cut off its head and sprinkled the blood on the bow, midships house and stern. He then took the body North, South, East and West in turn, invoking the river gods appropriately the while. The model junk was then launched, with a crew of frogs aboard, and shortly afterwards began its eventful journey to London. On the way down, the river-steamer was bombed by the Japs, and by the time Mr. Worcester reached Shanghai war had broken out. As there was no hope of getting the model out of the country, it was buried in a large box for safety. After the war, on Mr. Worcester's release from the Japanese prison camp he managed to retrieve the model intact, and it is now in the Science Museum, where it can be seen complete with all its minute gear, cooking utensils, clothes, and so on, in exact replica of the real junk, whilst on the bow, midship house and stern the blood of the cockeral still show dark against the wood.

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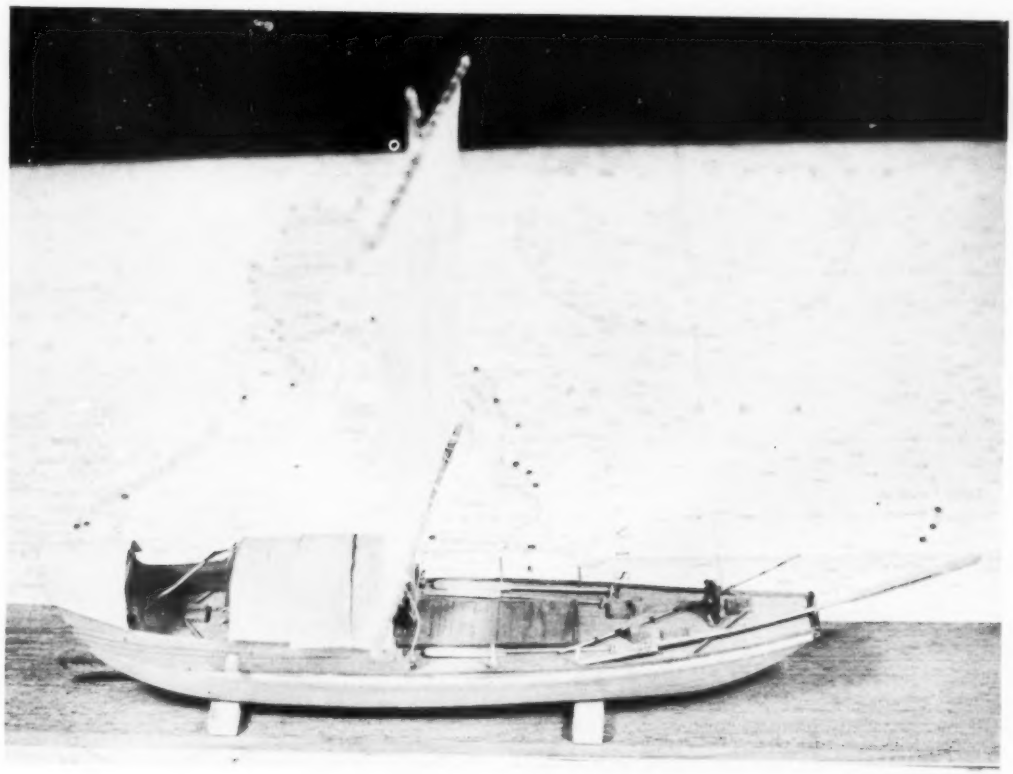
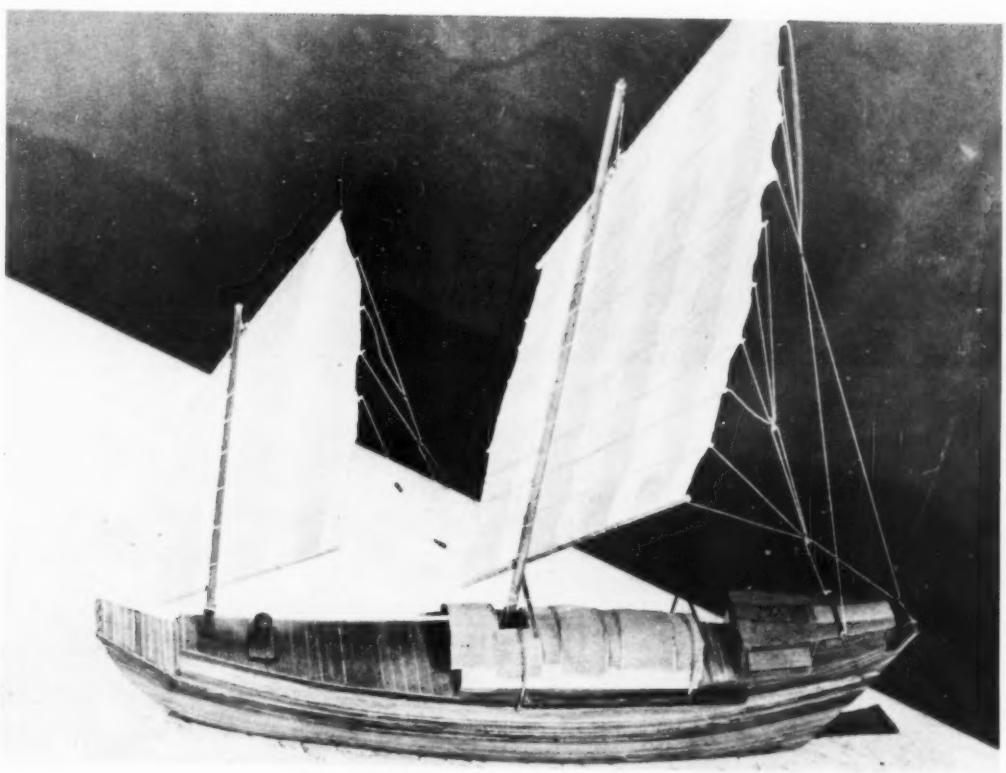
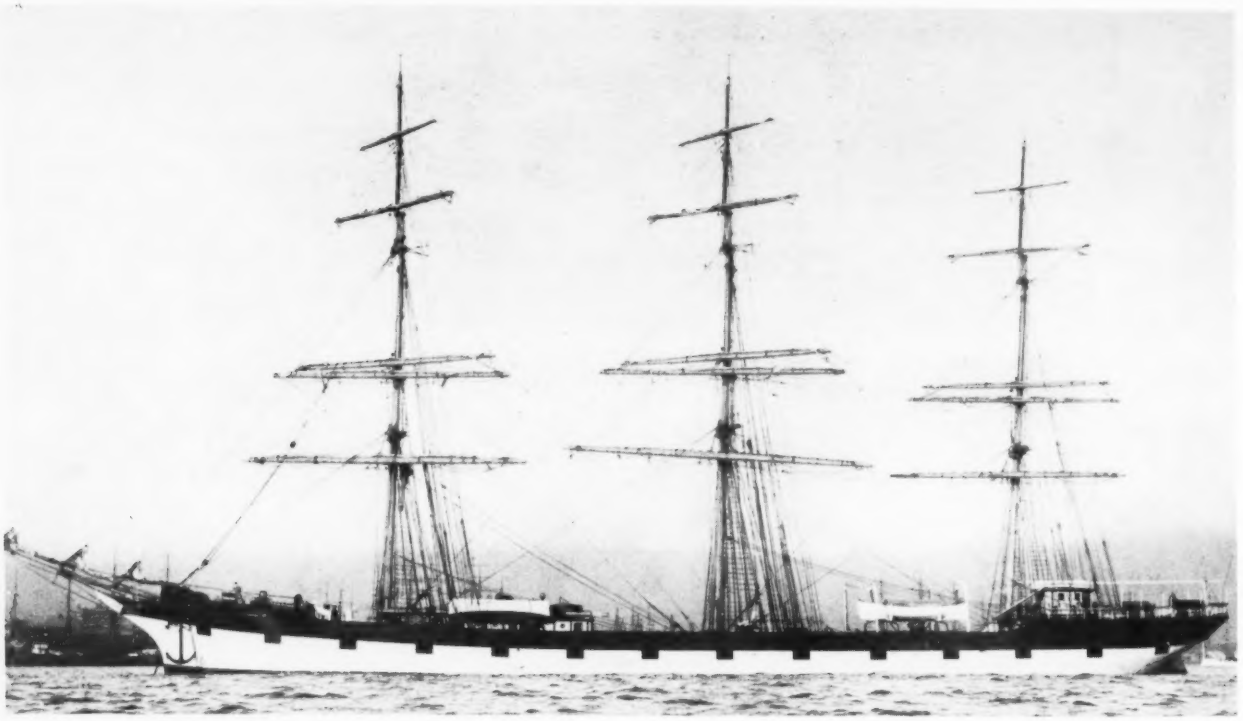
MODEL JUNKS CONSTRUCTED BY CAPTAIN C. E. COFFIN, JR. USN



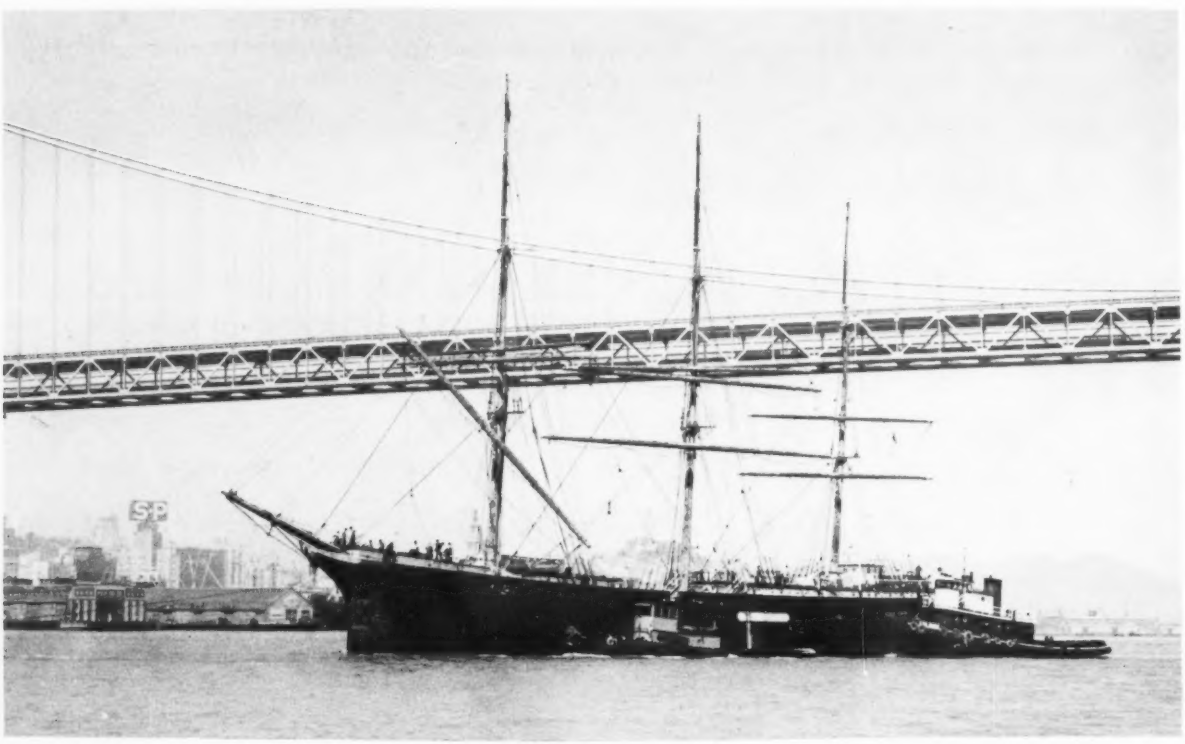
Model of a "New Type" Upper Yangtze Junk



Sailing Model of a Yo chow Ch'an-Tze Junk



San Francisco - 1890 - BALCLUTHA loaded with grain and ready for sea
(Restoration includes same color scheme - black, white and gray on hull)



BALCLUTHA under tow to drydock in San Franisco - July 1954 (Palmer Pictures, S.F.)

The Ship BALCLUTHA, Her Life and Times

Prepared by the San Francisco Maritime Museum

(Second Installment)

REMINDER: The sailing ship BALCLUTHA, though built in Scotland, represents an authentic page out of San Francisco History. Her initial voyages - as well as those of other contemporary British ships, prove that San Francisco trade was the principal reason for their construction. The BALCLUTHA is a prime and exact speciman of the type of square rigger that served West Coast Ports from the Civil War till the time of supplanting by powered vessels.

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The BALCLUTHA's crew lived under the fo'c'sle head, rather than in the deck-house, as in later sailing ships. Bunks for 20 men were ranged two high on either side of this triangular rood and in the center stood the anchor windlass. The ship's chain cables extended from the windlass forward and occupied still more of the crew's space.

Captain Pearce (who served before the mast on her maiden voyage) described the crew's quarters - "The crew (A.B.'s) were berthed under the forecastle head with bunks (two tiers) on both sides with two athwartship on either side between the doors and the fore and aft bunks. I am not sure how many, but if the bulkhead is still there, you can get an idea by allowing about six feet to each pair to just short of the hawse pipes. I don't recall any lockers, but think there was a small table on each side by about the second bunk. The apprentices were berthed on the port side of the deck house abaft the galley which, as far as I can remember, only had door on that side.

The carpenter's shop and room was on the starboard side. I cannot remember whether the cook shared with carpenter or if he had a room to himself. We had no boatswain or sailmaker, but there was a boxun storeroom just outside the starboard forecastle. On the port side was The Head."

The midship-house, which was first called a Liverpool house, was always the home of the idlers, those misnamed hard-working tradesmen, the bosun, sailmaker, carpenter and cook.

A boatswain has always been portrayed in sea books as the supreme example of the typical old time sailor, and this portrait as a rule was not far wrong. To rise to the rank of bosun in a first-class sailing ship required not only a knowledge of all the duties of his calling, but also the rarer attributes of authority and leadership.

The bosun usually began life as a coasters' loplolly boy or a deep-water man's peggy. By sheer character he worked his way to the best bynk in the foc's'le and became the coke of the watch -- its leader, the preserver of its internal discipline.

This position could not be retained for any length of time by a mere bully -- by brawn and muscle alone. It required a headpiece if it was to possess any durability. Besides this the leading hand, if he wished for promotion, had to show himself to be the first in all ship's work, not only in rope pulling and sail fisting, but with his marlinspike, his paint brush and his palm. Nor could the well-established coke of a foc's'le obtain a bosun's berth without a fistfull of V.G. discharges.

In the days of hemp the crack bosuns had generally served at some time or other in a rigger's loft, and a man who had been a Blackwall rigger had little to learn about a ship's rigging. Such a man was generally learned in all fancy work. His

chest shackles were marvels of lark's head, loop and button and crown braiding - of double turk's heads, walls and crowns, Matthew Walkers and other stopper knots. His whistle lanyard showed every kind of sennit plaiting. His chafing gear was the very acme of neatness with grafted puddings, whilst all his ornamental ropes, such as the gangway man ropes, were beautifully pointed. He made dolphins with rose lashing, and put a mouse on a stay or a cringle in a bolt-rope with a quickness which was only equalled by his neatness.

Rope handling makes big hands and big fingers. To the young seaman the old timer's gnarled fists with every finger curled like a fish hook look very clumsy, yet the most delicate, the most tapered of ladies fingers could not do the fine, finical work which these great claws were capable of.

But to see a first class bosun in his glory was to see him at such a task as jury rigging a dismasted ship, when he had to improvise his material perhaps from the vessel's junk heap. The high water mark of sailorizing was reached on such occasions when broken spars had to be scarfed and stayed, jeers rigged and make-shift masts rigged, stayed and stepped, and sails bent and set so that they would do their work without coming down like a pack of cards in the first breeze.

Then came the day of wire, and a whole new rigger's vocabulary had to be learnt. In the last days of sail a really good wire splicer was highly valued at sea and pretty certain to be given the first vacancy in the midship-house.

There have been old timers who could show discharges as bosun, sailmaker and even carpenter. Every A.B. had to be able to side seam, but the cutting out of sails was another matter.

The cut of a sail is even more difficult than the cut of a coat. On windjammers, though shape and flow, rounds and roping, stretch and shrinkage were not quite such important considerations as on racing yachts, still a vast amount of figuring and chalk calculations on the deck were needed before a keep captain or mate was satisfied, and if a sailmaker made a botch of it the result was always there before his eyes, a standing reproach.

Sailmaking at sea was a nice job, and those who were told off to help the sailmaker considered themselves lucky. They were usually the oldest and most experienced men in the fo'c'sle or else apprentices who were almost out of their time.

To sit comfortably on a bench with palm and needle whilst one's companions were sand and canvassing or holystoning, not only afforded one great satisfaction but was testimony to one's worth as a seaman. However, in bad weather and especially when rounding the Horn, the sailmaker had to put his bench away and turn to with the watch. And in this he was often joined by that other tradesman, the carpenter.

The finest carpenters at sea were almost invariably Northerners -- Finns, Swedes, Norwegians or Nova Scotiamen. All these were superb wood workers able to trim a spar or cut out a model by eye alone. And they used that sea tool, the adze, with such precision that a plane was rarely needed.

Frequently the Chips of a deep waterman was a member of that strange race known at sea as Russian Finns--a quiet, inoffensive, hard working people until roused, when they sometimes became Berserkers and ran amuck with an adze or a hatchet. The Finn has always had the reputation at sea of being able to bring up a fair or a foul wind at will. Undoubtedly he was often very psychic like the Highlander, but he was a good if somewhat silent and unsociable shipmate.

The "Doctor" or old slushy, as the cook was called on sailing ships, was generally the most unpopular inmate of the midship-house, for he had it in his power to make the voyage a hideous nightmare for both fo'c'sle and half-deck, and if he was not tactfully handled he frequently did so.

In the old days the lord of the galley was always an old seaman, who was either crippled or not active and strong enough for the strenuous work on deck or aloft. His cooking was usually described as "spoiling salt water". His duff was like lead, his beans like bullets, his tea and coffee water bewitched, and his beef kids contained green lumps of salt junk swimming in an evil smelling mass of slush. The limit of his powers did not go beyond dry hash and wet hash, pea soup and burgoo, duff and dandyfunk. The Stewart was far more familiar with cooking and was generally responsible for cabin fare.

BEFORE THE MAST IN THE "BALCLUTHA"

The following was furnished by Captain Norman J. Pearce - now 88 years old - who sailed on the BALCLUTHA on her maiden voyage to San Francisco in 1887. - - - -

"As I was born and bred on Mylor Creek, Falmouth Harbour, with the love of the sea in my bones, and with several uncles, brothers of both my parents, shipmasters, but all in the coasting trade, I just had to follow them. It was not long before I craved for something more -- big square rigged ships and foreign travel. Nothing then would suit me but the highest certificate.

After several years in small coasters, I thought it was time to do something more. It meant at least one year in a foreign-going square rigged sailing ship.

A friend of my father was a ship broker at Cardiff, so being there at the time, I asked him what chance I had of getting such a trip. His answer was 'We are brokers for a new ship loading coal at Penarth for San Francisco, and she will sail this week. She is a new ship called the BALCLUTHA and we can get you a berth as A.B. on her'.

It was soon fixed up and two days later I had signed articles to join her the following day. The ships in Penarth Dock were full-rigged, barques, steamers -- ocean-going and coastwise -- and several small sailing coasters. All these ships were loading coal for different parts of the world. I don't remember using the capstan, as we were towed away from the dock soon after we joined her. The screw tug left us west of Lundy Island and we headed down the Bristol Channel and Irish Sea under full sail.

You may guess how I felt up aloft on a topsail yard unfurling sail. I don't know that I had ever been a yard arm before, but I had to do the same as the rest of the A.B.'s who were mostly seasoned square rigger sailors. I suppose I managed all right, being young and adaptable, and was soon accepted by them all except a young Australian about my age. He had signed on as Ordinary Seaman and thought himself as good as me, for he certainly had more square rig experience than I. However, we settled down all right although we were a mixed crew including several half-castes from the West Indies, good sailors, one Brazilian, some Scandinavians, also good handymen. The rest were British.

There were four apprentices, all Scotch and first voyagers. The captain was from London, a gentleman; the first mate from Jersey (not a bad fellow but very irritating at times, and holding a captain's certificate); the second mate from Plymouth with a first mate's certificate, a nice chap; the third mate was fussy and wanted to fight me; the fourth mate, easy going. Both the latter held 2nd mate's certificates and had evidentally served their time as apprentices in some other ship. I was in the first mate's watch.

The first incident I remember well was my bed, bedclothes and some of my kit being washed out on deck through the door. As it was a new ship there were no plugs for the hawse pipes and with the first dive she made in the Irish Sea, she shipped most of it (or so it seemed to me) through the pipes and as my bunk was well forward it was quickly washed out with the flood. We tried stuffing with empty bags and some of our clothes, but we made a poor job of it for they washed in again. We just had to make the best of it until the carpenter made plugs to fit and then we had to wait for the cable chain to be unshackled from the anchor and drawn inboard through the pipes, which was always done at the beginning of a long sea voyage.

That was the wettest time we had in the forecastle for it turned out to be fairly dry and comfortable all through the worst weather rounding Cape Horn. It was but a few days before we were in warmer weather with everything proceeding smoothly. We had a busy time for there is always plenty to do in a new ship. One thing I noticed, although not a deep sea sailor, was that her mast and topmast were in one piece. I wonder if they are the same today.

We were by this time used to our Board of Trade fare, "Pound and Pint," we called it in those days. I remember some doggeral on that point:-

'Pork & Peas, as much as you please,
Beef & Duff, not half enough.'

Our cook, an elderly colored man and quite a decent fellow, did his best with what he was allowed to use but it was not much for us young chaps.

We had an uneventful trip through the North Atlantic, the Doldrums and the South Atlantic, signalling several ships whose names I cannot remember, with a Pampero off the River Plate, and then when off Staten Island near Capr Horn, we were on the fore yard taking in sail as the wind was increasing to a gale, when we saw a water spout just ahead. It passed our bows near enough to give us all on that yard a scare. I had heard of such in my limited experience, but had never seen anything like it before.

While trying to round the Horn some time later, the South American sailor fell from the yard forward, struck the bulwarks and fell inwards on the deck. His injury was only a dislocated shoulder from which he recovered before we got to warm weather.

After beating about for three weeks in heavy gales, but without seeing ice, we had a slant of wind which took us into the Pacific and then up the coast. I remember one night off the Horn all hands being called to wear ship as another ship was approaching us on the other tack. It being our place to keep clear, and having only small sail, we could not tack, so had to wear. It was a wild night, very dark and cold, and we experienced an anxious time before we were out of danger. As I said before, the forecastle was not too wet, but it was cold coming in off watch at nights.

Sailing up the Pacific was a sailor's dream with fine weather until we were well north of the Equator. One incident often makes me laugh when called to mind. We had a Cardiff seaman who was working by the bowsprit when he espied a turtle floating alongside. He dropped his work and made for the ladder to the deck shouting to the first seaman he came to, 'Tom, Tom come and look at this great crab!!

Quite a time before we reached the latitude of 'Frisco we ran into northerly gales, not so heavy as the Cape Horn gales, but quite strong, and this delayed us a bit. Eventually we made the Golden Gates in very fine weather, took on the pilot and shortly after, the tug had us in tow. Sails were soon furled and we came to anchor well up the harbour. Then I had a few minutes to gaze around and admire the scenery. I little though I was to spend three months there.

The first launch alongside was the Customs. I knew the engineer by name as his brother was an acquaintance of mine, master of a Wexford schooner whom I used to meet occasionally at Cardiff. The harbour and police launches came next, followed by the boarding house proprietors. Only two or three of our crew deserted. I well remember how after a time, the chief police officer blew his whistle and shouted, 'In your boats. Get a move on.' We were soon clear of them.

Our cargo of coal being for the White Star steamers trading to Japan and China, we unloaded near their wharves; the unloading berth was not very large. While discharging, the crew were given a holiday to celebrate Queen Victoria's Jubilee and we were invited to a park for the day where we met several English people who treated us well.

While lying in the harbour waiting for a discharging berth we had more English visitors. One I remember had helped to build the BALCLUTHA but had left Scotland after us and crossed overland. He casually remarked, 'I guess you are all Britishers here.' One of the Scandinavians answered 'Well, I'm not. I'm a Dutchman.'

I was fortunate enough to be handy with a boat and got the job of looking after the Captain's gig and so had frequent trips around the harbour taking the Captain and his friends. I did not get about the city much as we were towed to Sausalito Bay after discharging and lay at anchor for three months waiting for freights to rise. I suppose there were 30 or 40 English sailing ships in the Bay, some with crews, some with skeleton crews and we paid them a few visits.

There were no amusements ashore, and but for the boat trips around the Bay, it was dull and monotonous. 'Frisco was too far to go even if we had any money, but my Wexford friends, brother and sister, invited me over for a day and took me around.

At last we were towed to the grain warehouses and loaded all our cargo from there. I cannot recall anything about the loading so presume it must have been ordinary stowage. As we had only two or three A.B.'s to replace, nothing untoward happened. We had another day ashore to do some shopping with our limited supply of cash. Being recommended to deal with the Palace Stores, there we went and spent our money and vouchers, returning late with our too few parcels of clothing and presents for English friends. You will understand that cash was not plentiful, our wages being only £2.10.0 per month. In fact, I think we only had a dollar or two and a voucher for the rest.

We were towed shortly afterwards out to sea, cast off the tow rope as soon as we had an offing and with all sails set steered south on the return voyage. Fine weather prevailed down the Pacific and round Cape Horn and we had a fair wind up the Atlantic -- nothing exciting except signalling a few sailing ships and an occasional steamer. So it continued through the trade winds and the Doldrums until about 200 or 300 miles from Ireland when we were speeding along with a strong westerly wind.

I was at the wheel when the wind changed suddenly to the east and the sails went flat aback. The first mate came running on to the poop, and the look he gave me and the words he used ('You...Jonah, you are determined to get that twelve-month service in somehow') I shall never forget.

The head wind delayed us somewhat but eventually we arrived off Queenstown where pilot and tug soon took charge and we anchored shortly after in the harbout where we stayed several days. Our orders then came and a tug towed us to Fleetwood. We lay at anchor for a few hours, then were taken off by launch to the shipping officer and paid off.

That was the last I ever saw of the BALCLUTHA and most of her crew. The voyage lasted 12 months and 6 days, and the only land we saw during the voyage was when pasing Cape Horn on our homeward trip.

HISTORY OF THE SHIP "BALCLUTHA", ex "STAR OF ALAXKA", ex PACIFIC QUEEN

The steel ship BALCLUTHA was built in 1886 by Charles Connell at Glasgow, Scotland, and was a vessel of 1,862 gross tons, 1,590 net; measuring 253.3 feet in length, 34.2 feet abeam, and 22.7 feet deep. In 1886 Robert McMillan of Dumbarton, Scotland, retired from shipbuilding and became a ship-owner. He acquired BALCLUTHA and another ship called SIRENIA, which was lost in the Channel on her first voyage homeward bound but without loss of life. McMillan ultimately returned to the dockyard in Dumbarton which he managed until his death.

The vessel's early voyages were as follows:

year	date	voyage
1887		Sailed Cardiff, Capt. J.F. Constable
	10 June	Arrived San Francisco
		Sailed San Francisco
		Arrived United Kingdom
1888		Sailed Swansea (coal cargo probably) Captain J. F. Constable
	26 July	Arrived San Francisco
		Sailed San Francisco
		Arrived United Kingdom
1889		Sailed Antwerp, Captain John Binnie
	17 August	Arrived San Francisco
		Sailed San Francisco
		(Arrived United Kingdom - ?)
1890-94	No record of voyages exists.	
1894		Sailed Cardiff, Capt. Durkee (with coal probably)
		Arrived Iquique
		Sailed West Coast South America
		Arrived United Kingdom, Europe - (?)
1897	5 May	Sailed London, Capt. Durkee
	24 Sept.	Arrived San Francisco, 142 days
		Sailed San Francisco
		Arrived United Kingdom, Europe
1898		Sailed United Kingdom, Europe, Capt. Durkee
		Arrived Montevideo
		Sailed Montevideo
		Arrived Calcutta
1899		Sailed Calcutta
	27 May	Arrived San Francisco

In 1899 she arrived in San Francisco on her last voyage from England and was purchased by three San Francisco companies, J. J. Moore & Co., exporters and shippers; Pope & Talbot; and Renton, Holmes & Company. The last two companies were owner and operators of two of the largest sawmills on Puget sound. The BALCLUTHA (and the EUTERPE, STAR OF FRANCE, STAR OF ITALY AND STAR OF RUSSIA, all purchased in 1898 or 1899) was bought to be used in the lumber trade with Australia. J. J. Moore was then exporting millions of feet of mining timber a year, and the lumber was supplied by the two lumber compnies. J. J. Moore was managing owner of a fleet of about 10 vessels, but he did not own the controlling interest in many of them. Pope & Talbot owned 2,158/4,300 of the BALCLUTHA.

Vessels chartered to carry lumber to Australia about the turn of the century did well. The demand was steady, and they were certain of a return cargo, since Moore had a contract with the Southern Pacific to deliver about 100,000 tons of coal annually at $3.50 a ton.

But full riggers were not particularly good lumber carriers, compared to schooners and barkentines, as their rigging got in the way of the loading slings and interfered with high deckloads.

So in 1903 Pope & Talbot chartered the BALCLUTHA for the season of salmon fishing, and she sailed for Karluk, flying the swallow-tail houseflag of the Alaska Packer's Association. Leaving San Francisco on April 25 she made the trip in 18 days. In the fall she returned by way of Nanaimo, British Columbia, and Port Townsend, Washington, arriving at San Francisco on October 16.

In 1904 BALCLUTHA was again chartered from Pope & Talbot for the season of salmon fishing and sailed for Karluk on April 27 under the command of Captain Bremer. Twenty-three days later she was wrecked on the north end of Sitkinak (Geese) Island. The wreck was purchased for the Alaska Packers by Mr. William Munn for $500 and the ship was taken to Chip's Cove, Kodiak Island, where temporary repairs were made. On October 3 she sailed for San Francisco, but because of unfavorable conditions had to return to Chip's Cove on October 11. While at anchor there, she dragged ashore and received additional damage. She remained there throughout the winter 1904-1905 and in the spring of the latter year, officers, crew, pumps and material were sent up from San Francisco for additional repairs. These arrived on May 25; repairs were effected and the BALCLUTHA sailed for San Francisco on July 12, arriving there on August 7. On her voyage down she was commended by Captin Nicholas Wagner. BALCLUTHA's new owners turned her over to the United Engineering Works a month later, where work was done under the supervision of Captain Metcalf in accordance with Lloyd's Rules.

Under the command of Captain Wagner BALCLUTHA -- now renamed STAR OF ALASKA in accordance with the company's policy of giving their iron and steel ships names with the STAR prefix -- made her first trip to Alaska under her new ownership in 1906, making the voyage up in 23 days and returning in 15 days. After the first fishing season 150 bunks were installed for fishermen and Chinese during the winter of 1906-07. Captain C. A. Halvorson succeeded Captain Wagner, who then commanded STAR OF BENGAL for two years. Captain Halvorson remained in command of STAR OF ALASKA until 1914, during which time, in 1910, 72 more bunks were added in the 'tween decks. The following year her poop was extended 68 feet 8 inches to accommodate 86 more fishermen. In 1915 Captain R. Johnson succeeded Captain Halvorson.

Though the distance from San Francisco to Alaska was approximately 2400 miles, a voyage that was not considered long as sea voyages go, each ship was loaded with supplies, for canneries, fishermen, cannery-hands and all the various operations involved in catching, canning and transporting the salmon pack from Alaska to San Francisco. And this seasonal operation covered a period of approximately seven months at the most. Since each ship carried upwards of 100 men on board, and supplies to keep them going through the season, considerable alterations were necessary in the living quarters and storage spaces on each ship. Major alterations in the wooden ships were not carried out to the extent of those on steel-hulled ships. On ships like the STAR OF ALASKA, STAR OF HOLLAND, STAR OF FRANCE, STAR OF ICELAND and STAR OF RUSSIA, the heretofore short poop decks were lengthened as much as 70 feet, to provide additional living quarters for fishermen and cannery hands. The 'tween deck spaces were given over to living quarters at the expense of cargo-carrying capacity, and in nearly every ship there were installed large water-tanks and several kitchens or galleys. The Chinese of San Francisco's large colony were well represented in the canneries ashore, while Italians and Scandinavian fishermen from the Bay and waterfront made up the fishing crews.

Fishing methods in South Alaska differed from those in Bristol Bay. The water in Southern and Southeastern Alaska was too clear for gill-netting, so traps were used to harvest the crop of salmon. Trap-fishing required smaller crews for the ships that went to the canneries of Chignik, Karluk, and Alitak. In the early days of the century, fishermen signed on the windjammers as sailors being paid on a quarterly basis; one-quarter for the run to Alaska; one-quarter for unloading the cannery supplies; one-quarter for loading the salmon pack; and the last quarter for sailing the ship back to San Francisco at the end of the season. Fishermen-sailors were called upon to perform a wide variety of jobs in connection with the operation of ships and fishing. The ship's crews were split up into gangs, varying in number from 12 to 18. In the old days, prior to World War I, gangs numbered 18, two of which were assigned to keeping quarters on the ship clean, one man to repair and keep nets in order, and the balance of the gang, or watch, did the ship's work. Upon arrival of the ship at its specific cannery station, both anchors were let go, and a swivel shackled into the chains, so the ship could swing freely during the summer months. As the stores were unloaded by the crew, the upper yards and tophamper were lowered to improve stability and keep the ship upright. All hands turned to in getting the cannery ready for operation, which sometimes meant doing everything from carpentry work to overhauling the boats and barges. With the growing strength of the fishermen's union, however, delineations were made in the work performed by fishermen, and eventually the practice of fishermen doing carpentry work and miscellaneous chores was lessened.

The ships themselves were as varied and colorful a lot as were ever owned by one company. The Alaska Packers were shipowners from the year 1893 till World War II caused the government to requisition the few steamers they still owner, and over this spread of nearly half a century they bought, sold and operated ships of all sizes and rigs. Among the vessels they acquired shortly after the turn of the century was a quartet of Belfast-built medium clippers which had already gained some fame as fast-sailing windjammers under the Red Duster of England. They were known to seamen as Corry's "Irish Stars". Some of their color and former glory rubbed off on their newly acquired, if less glamorous sisters, when the miscellaneous names of the other iron and steel ships that the Packers owned were changed to "Stars." Thus the STAR OF FRANCE, STAR OF RUSSIA, STAR OF BENGAL and STAR OF ITALY formed the nucleus of an American flagg fleet which was to number 19 "Stars" in all, as well as a number of wooden sailing ships that retained their original names. For nearly 24 years, from the year of the earthquake and fire until STAR OF ALASKA came home to lay up in

1930, the STAR fleet was a prominent part of San Francisco Bay shipping and, in an age when the steamship finally triumphed, provided more than a little glamour on the waterfront.

During the average year STAR OF ALASKA was active from March until October, being at sea for about forty days of the year, but otherwise actively engaged in the fishing business. Consequently annual repairs were in order. The Packers maintained their own yards at the foot of Paru Street in Alameda and during the winter the whole fleet of some thirty vessels would be tied to the long low wharves in rows. The iron and steel ships were easily recognized and distinguished themselves with thier black hulls, red boot-topping and buff spars. Fortunately the Packers took very good care of all their ships and each year reqpirs and replacements were effected.

For instance, in 1911-12 STAR OF ALASKA had the new poop laid with all of its accessories; broken knees in the 'ween decks repaired, and the whole main deck recaulked. The ship spent almost three months at the United Engineering Works being overhauled. Keeping the iron and steel vessels in good condition was much easier and more economical than the wooden ships, and by 1924 the latter vessels had been laid up permanently. Most of them were down-Easters, upwards of forty years old.

From 1906 until 1930 STAR OF ALASKA sailed to Chignik every year, returning directly to San Francisco, except when she towed to Alitak in 1925 to pick up a surplus pack there. During World War I several of the Packers ships were chartered by the United States Shipping Board to carry war cargoes, but STAR OF ALASKA was kept on her regular schedule.

In 1925 the well known marine artist, Gordon Grant, made the trip to Chignik in STAR OF ALASKA, and his sketches of life aboard under the title "Sail Ho!" constitute one of the most beautiful books about the sea. The ship at that time was under the command of Captain Bertoncini, whom Grant describes as having spent most of his life in whalers.

The same year that Gordon Grant made his trip, the Association bought its first steamer - - ARTIC - - and began to lay up the sailing ships. This was followed shortly after by two more steamers, BERING and CHIRIKOF. These were a great improvement in economy over the sailers, and could do twice the amount of work accomplished by the largest windjammer. The down-Easters in the fleet were all retired by 1924, and beginning a year or two later, some of the iron and steel ships began to be laid up.

For the twenty-four years of passages she made to Chignik, STAR OF ALASKA averaged better than 22 days going North and better than 15 days homeward bound. Her best time from San Francisco to Chignik was in 1926, when she sailed from the Golden Gate on April 3 and arrived at the Alaskan cannery on the 17th, making the trip in 14 days. Her average day's run was about 143 miles a day, averaging six knots all the way. Her best time home was ten days in 1913 when she sailed from Chignik on August 30 and arrived September 9.

Comparing the voyages of STAR OF ALASKA with those of the other STARS one can see that she was the most consistent for making quick passages up and back. She was never over 32 days on the northward passage, and the longest she took coming home was 20 days in 1922 and 1923. Her record passages have already been given. These short passages may be partially explained by the fact that Chignik was in Southeastern Alaska and therefore closer home than the Bristol Bay canneries. Nevertheless she was known as a smart sailer and outlived the rest of the windjammers in the service of the Alaska Packers.

In 1928 only five sailing ships were sent to Alaska, one of these, STAR OF FALKLAND, being wrecked on Unimak Island. In that year Captain Mortensen had a chance to test the STAR OF ALASKA in a fair sailing match. One of the other five ships was the steel bark STAR OF ENGLAND, which was commanded by Captain Charles Wiese, another veteran Packer skipper. Captain Mortensen had been in command of the bark for five years, 1910-1915, so knew the sailing qualities of both ships. A race was arranged between the two, to start as both ships passed through the Golden Gate.

A San Francisco newspaper reports: "The biggest race of ships on the Pacific Coast in many years is to be sailed by two of the Alaska Packer windjammers next month when the STAR OF ALASKA and the STAR OF ENGLAND are to race from San Francisco Bay to Cherikoff Island off southeastern Alaska. Both ships are to make this point and then to continue their different routes to cannery stations. The race is for a purse of $100, put up by the Alaska Packers, and a bet of $250 -- a month's salary -- between the skippers.

From the "Examiner" of April 4, 1928: "What is expected to be one of the most thrilling sailing ship races of recent years started off the San Francisco lightship yesterday afternoon . . . Both sailers were towed outside the Gate by Red Stack tugs. Once off the lightship the tugs dropped their tows and both craft set sail for what might be the last sailing ship race off the West Coast.

The STAR OF ALASKA got her canvas up first and as the tugs turned back, she appeared about six miles ahead of her rival.... They passed out of the Bay at the same time, 9:45 a.m. , the STAR OF ALASKA bound for Chignik and the ENGLAND for Alitak.

"Before the tugs had released the tows, both commanders had given orders to hoist sail. Before the tugs were out of sight, both of the racers were under full canvas and picking up speed in the brisk wind that was blowing along the coast."

But Captain Schulz to the contrary, STAR OF ALASKA won the race to Chirikof Island in 17 days 21 hours from the time of leaving San Francisco harbor. The vessel then turned west to Chignik, making the passage in 19 days, beating the STAR OF ENGLAND by 14 days 4 hours. Thus ended the last American deep water square rigger race on the Pacific Coast.

By 1929 only two sailing ships, STAR OF ALASKA and STAR OF HOLLAND, sailed to Alaska, and the following year STAR OF HOLLAND was laid up with the rest of the fleet in Alameda and STAR OF ALASKA was left to go North alone. This she did, but in tow of the steamer ARTIC, making the passage up in nine days; on September 16 she arrived in San Francisco nine days from Chignik under two of the steamer KVICHAK, and was laid up with the rest of the fleet. Thus it was the STAR OF ALASKA which wrote the final chapter in the long saga of sailing ships in the Alaska trade.

(To be concluded in the next issues)

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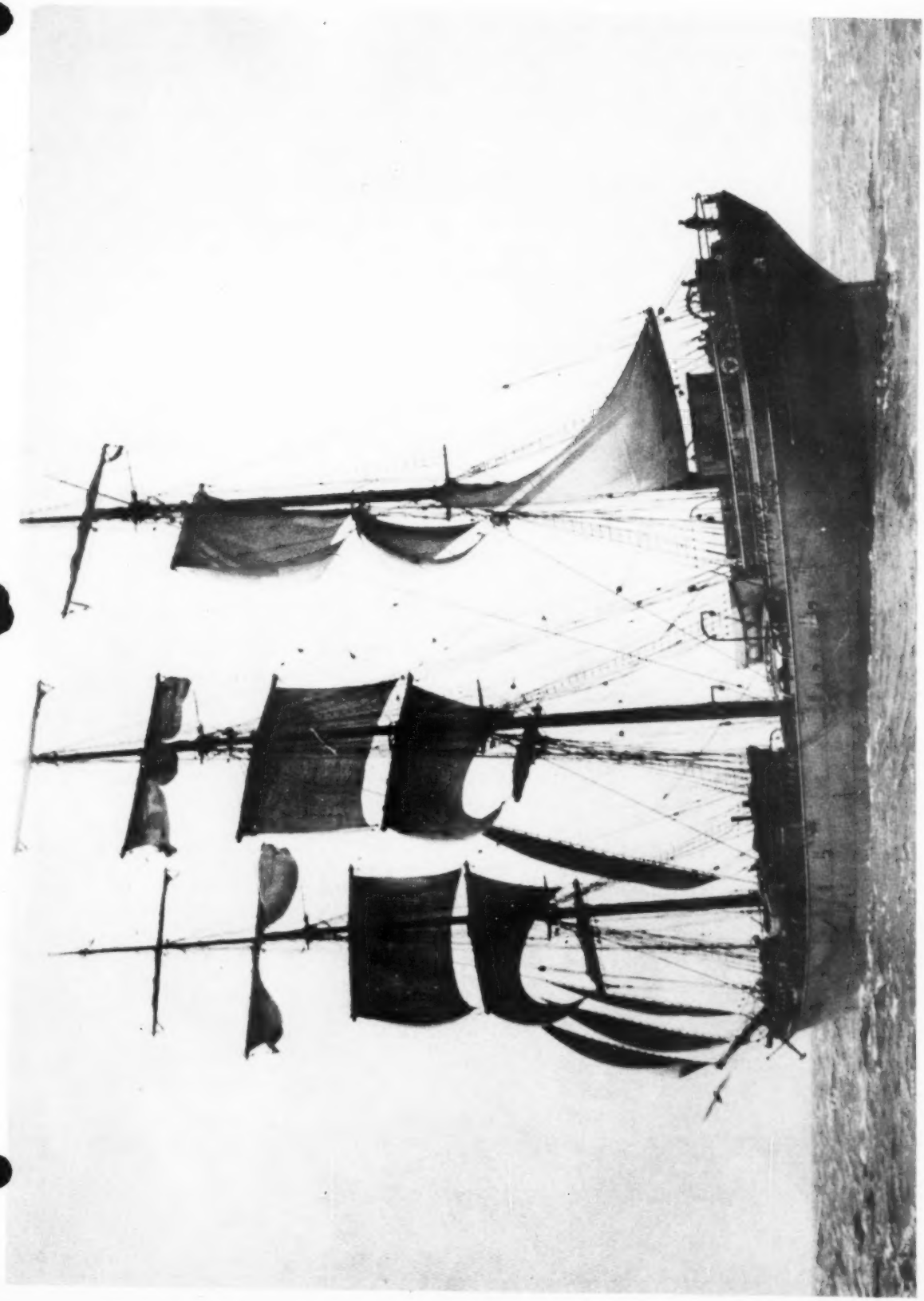
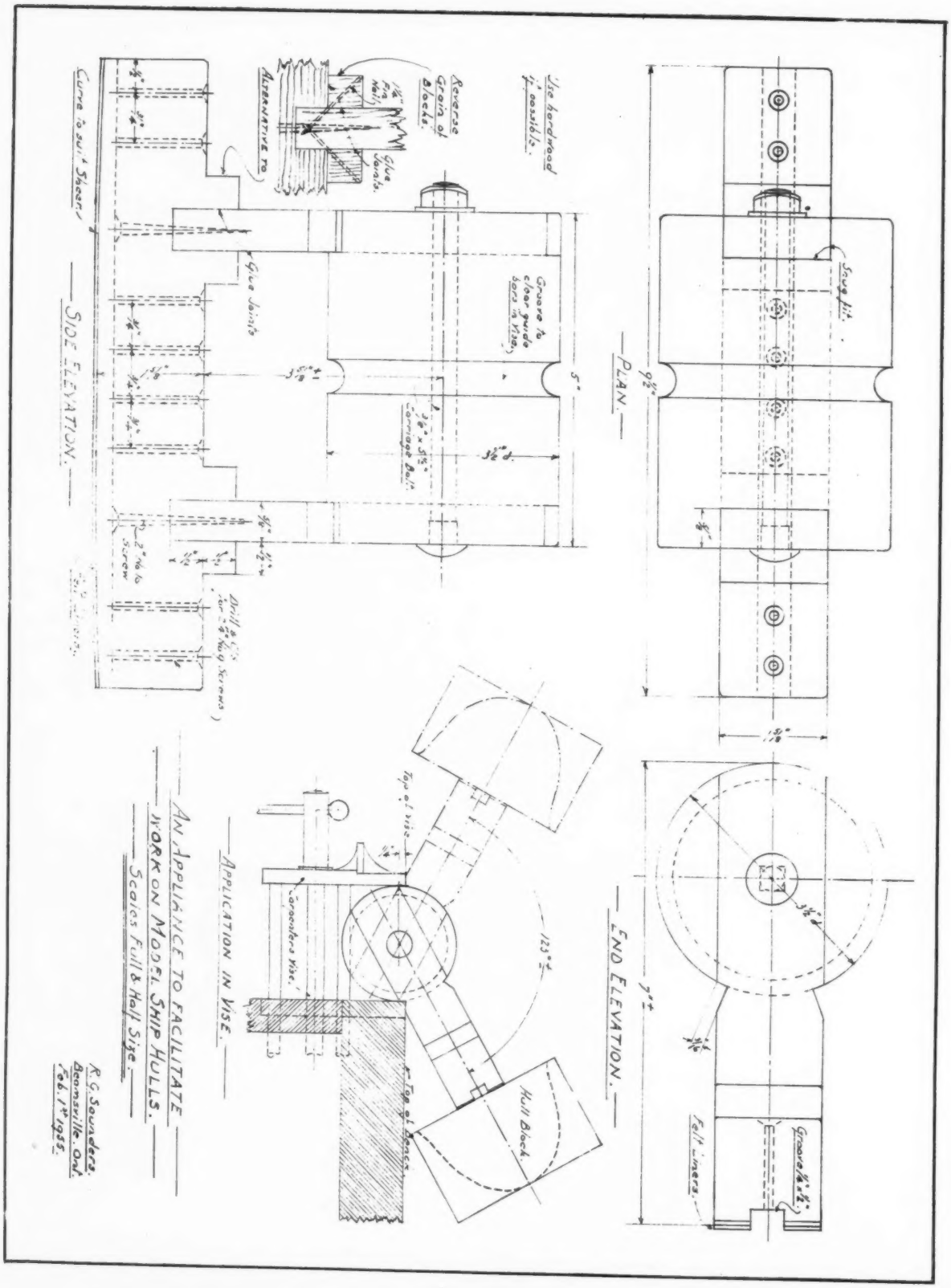


Full Rigged Ship BALCLUTHA, ex STAR OF ALASKA

Before 1911 .. STAR OF ALASKA had not yet had her poop deck lengthened for the accomodation of additional fishermen


— SIDE ELEVATION. —
— PLAN. —
— END ELEVATION. —
— APPLICATION IN VISE. —
— AN APPLIANCE TO FACILITATE —
— WORK ON MODEL SHIP HULLS. —
— Scales Full & Half Size. —
R. G. Saunders.
Beamsville. Ont.
Feb. 1st 1955.

AN APPLIANCE TO FACILITATE WORK ON MODEL SHIP HULLS

By Major R. G. Saunders

In the matter of fashioning the hull, assuming that the block or laminated lifts are ready for cutting, it would seem good practice to carve and finish the deck to the sheer line and appropriate crown or camber. This operation does not present undue difficulty since the block can be held rigidly in an upright position.

After the body templates have been cut, the carving of the hull proper is an entirely different matter. The recommendations of most authorities are screw a square, round or hexagonal piece to the deck, which in turn is held in the vise when the block is inverted. This method is satisfactory when working on the underside of the model, but does not present an ideal condition for the topsides - particularly, if a tumblehome shape has to be effected. To facilitate this latter operation, I constructed and am using the appliance shown on the accompanying detailed drawing.

This device permits of rotating the block through some 123 degrees when used in my automatic carpenter's vise or 180 degrees if a machinist's vise is employed. Almost any position may be obtained if the latter vise has a swivel base.

The appliance should be made of hardwood to assure a long life, but the most important factor is the overall working height. This should suit the convenience of the modeller and can be obtained by varying the length of the two side pieces that secure the block to the cylinder. The latter is easily removable so as to give access to holes in the center of the block if desired.

The length and diameter of the cylinder may vary to suit the vise presently available and instead of cutting the block out of one piece, an alternative method is shown on the plan. Since rigidity is of primary importance, I used the latter and reversed the grain of the $\frac{1}{2}$ inch shoulder pieces. The holes in the block for $2\frac{1}{4}$ inch number 9 screws provide a choice of positioning so that the screws will penetrate in an area which will eventually be covered by cabins, hatches and so on.. Since I am working on more than one model, these pre-drilled holes are quite a time saver when changing the appliance from one model to another. The groove in the cylinder may not be necessary to clear the guide bars in some makes of vises, but the horizontal diameter of the cylinder should be at least $\frac{1}{8}$ inch below the topedge of the cylinder. In addition to facilitating the carving operations, it is thought the appliance will serve equally well during the painting of the hull.

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THE ANATOMY OF NELSON'S SHIPS

Written by C.Nepean Longridge

Review by John Lang

(Published by Percival Marshall & Co. Ltd., London W.1., England, price 63/- with 272 pages, 183 illustrations, 76 photographs and 12 plans)

Since this work, by the author of two volumes on the CUTTY SARK, was first announced some two years ago it has been awaited eagerly by numerous ship lovers and modelers. The delay in pbulication was due in part to the death of the author which was a sad loss to the entire ship model building fraternity.

However, an inspection of the volume proves it has been well worth waiting for. It is only natural that the author's previous work should be used, to some extent, as a standard on which this book is judged. In some sections, one may be tempted to think that the descriptions are not so detailed as in CUTTY SARK, but it is only fair to remember the first model was built "bread and butter" fashion while this is planked on formers. To produce a work with equivalent detail would have made the cost prohibitive. I am certain this volume, however, will prove to be every bit as valuable to the modeler and ship enthusiast and the description is in the greater part entirely adequate to enable any competent modeler to reproduce the VICTORY.

The author, after his preface, gives an insight into the actual framing methods employed in the construction of these ships. This chapter, though necessarily quite brief for such a complex subject, is very useful to the reader by conveying some idea of the work involved.

It is in the main body of the text that the author excels. His description of methods used, the jigs produced during the construction and materials used are all very much to the point and likely to prove of value to modelers of all kinds of sailing ships. Especially useful is his form of jig or harpin molds.

Possibly the mose useful chapters dealing with the work on the hull are those on "Planking and Coppering" and "The Head and the Stern". The latter is especially valuable as the author goes to great lengths to describe the difficulties he encountered and methods employed to overcome them. Only a person who has actually constructed the elaborate head and stern could produce the detailed instructions given and these are made even more useful by the ample and clear detail drawings supplied by the artists.

The other chapters on guns and deck details will enable the modeler to build quite an elaborate reproduction, but it is felt that, as the author has mentioned, the possibility of completing the furniture, the octagonal cover over the head of the rudder and other items, detail drawings of some of these might have been given. The ship's boats are illustrated on one of the folding plans, but no lines are given. Since these are one of the most prominent features on the deck, they should be accurate.

The chapters on masting and rigging give very full details of the sizes of masts, spars, cordage and blocks. Not only does the author give very full details of the lead of the rigging, but details and plans of the belaying pin racks as well. He also includes practical descriptions of how to produce the cordage and fittings required. At first sight, the system of describing the rigging tends to make one think that it is too brief to produce a model of the VICTORY, but further study demonstrates the subject is as adequately covered as the previous work on the CUTTY SARK. It is obvious that a single volume devoted to all phases of construction and rigging cannot be as complete as one devoted to rigging alone and the author appears to appreciate the fact as he furnishes a list of authoritative works that may be used for reference.

Critical analysis of the work is possible, but would be more in the nature of personal opinion rather than technical. Drawings might have been furnished of the different types of hammock cranes required, also of the furnishings of the cabins, the binnacle and possibly the wheel. Future editions should contain correction of the number of the figure on "The General Run of the Bowlines". In one or two instances, the use of full size and scale measurements close together in the text resulted in momentary confusion - but is not considered of serious import.

Author Longridge has given ship lovers a valuable work and its worth to ship modelers cannot be measured. The artists deserve great praise for producing such clear drawings to amplify the descriptive text, and the publishers likewise carried the high standards thus established throughout the finished product which deserves a place of honor on the shelves of any library.

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HISTORICAL MINATURES

Richard C. McKay contributed the following:- About 200 B.C., Ptolemy Philoptor built a great ship reported to be 420 feet in length, 57 feet in breadth and 72 feet in depth. The vessel was propelled by 4,000 rowers, had two beaks (used as rams) and two sterns. Another great ship of ancient times was that built by Hiero of Syracuse. No dimensions are reported, but timber for construction came from Mount Etna, ropes from Spain, hemp and pitch from the Rhone (area).

The following bit of history was furnished by Mr. H. J. V. Pulliam of Austin, Texas, through Mr. John Shedd:- Texas, the Lone Star State, when a Republic and before annexation by the United States, was a sea power. Her navy consisted of several of the following ships: (1) the ship AUSTIN that was built in Baltimore in 1835 and delivered in 1839. Length was 130 feet, breadth 32 feet, displacement 600 tons and load draft of 11 feet. A crew of 300 was carried to man the ship and armament of 18 medium 24 pounders, 2 medium 18 pounders and miscellaneous small arms. The ship had three masts and carried two life boats as well as a quarter boat.
(2) A sister ship to the AUSTIN was the WHARTON and other ships of the fleet were the ARCHER, SAN ANTONIO, SAN JACINTO, SAN BERNARD, ZAVALLA and the SAN TANA.
(3) Upon admission of Texas to the Union, the Texas fleet became part of the United States Navy in 1846. The fleet helped maintain a blockade of Mexican ports during the wars of 1836 and 1848. Other ship that made contributions to the victory were INVINCIBLE, BRUTUS, INDEPENDENCE and the LIBERTY. Some of these ships also served in the Confederate Navy at a later date.

The January 1955 issue of BALTIMORE (magazine) contained an interesting article by Ralph J. Robinson titled "Mystery of Keys Vessel Nears Solution". The author pointed out that persistant research among Naval records proved unsatisfactory, but did produce correspondence of Colonel John S. Skinner, Agent of Commissary General for Prisoners (special Bureau of the State Department) and in direct charge of truce boats used in making contact with the British forces between 1813 and 1815.

The author and research staff of National Archives established that most of the charters for "flag truce boats" appeared on the records as "Ferguson's Norfolk packets". In 1813, Colonel Skinner had the ELIZA and PRESIDENT of the Ferguson Line under charter and it was thought (but not proven) the latter carried Frances Scott as passenger at the time of bombardment of Fort McHenry by the British.

The PRESIDENT was sloop-rigged, Maryland built, approximately 60' long with an 18' beam, draft approximately 6' and carried a normal crew of 4 or 5 men. The vessel was built in 1807 for Benjamin and John Ferguson (Baltimore merchants) who operated a regular scheduled cargo-passenger service (in 1810) between Baltimore and Norfolk. As many as twelve vessels at various times were employed in this service by the firm.

LETTERS TO THE SECRETARY

From Albert E. Hirst, New Westminster, B.C.,Canada -- I work for the Canadian Western Lumber Company which is a subsidiary of Crown Zellerbach. They have a contract with a large towing company for hauling our pulp chips and use old ships converted to barges for the purpose. The present condition of these is sad to behold and there is one in particular I remember from early school days named the FOREST FRIEND. Then she was a beautiful four master and now nothing but a black hulk...

From Henry C. Klingler, Elmhurst, New York. My interest in modeling was aroused by a kit model of the SLAVER several years ago and collecting information to supplement the plans has been gratifying. Looking for additional data on this little documented craft has been difficult and will appreciate leads toward sources of specific material on the Baltimore Clipper Brig.

From R. B. Applebee, Stockton Spring, Maine - - Think that your outline for new ideas and articles is good and one of these days will do something about it. I should like to see an issue on Great Lakes as most of us know little of the early sailing vessels of that area. John Flynn's father was a sailing skipper out there. A California number would be good and would do we Easterners a bit of benefit, for many of the eastern built vessels ended their useful service out there. The subject 'Fires at Sea' would be good as you could combine rescues with it and make interesting reading. I thought the whaling number good and anything left over will always make good reading.

From Harry V. Dunn, Jr., Eutaw, Alabama -- I'm making some progress in my research on English Revenue Cutters of the latter half of the 18th Century. Your comments on the DILIGENCE in response to my inquiries earlier this year lead to some interesting developments. I hope to be ready to start construction soon.

From H. G. Purcell, Carmichael, California -- The newest addition to the USN has received a lot of publicity, but my mind goes back to the F-Boat flotella of small submarines that arrived in Honolulu in 1914. There was no salvage equipment available in Honolulu or at Pearl Harbor when the F-4 sank off the harbor in March 1915. The Hawaiian Dredging Co. came to the assistance of the Navy by furnishing a dredge, two hopper scows, a small floating derrick and a towboat. I was skipper of the dredge GAYLORD for two months and never forgot the experience. The dredge usually required a crew of thirty men, but for the salvage work there was only an engine room gang consisting of engineer, oiler and three firemen. Three times in two months we were driven off the job by bad weather, but each time we went back and finally succeeded in raising the F-4.

SLOP CHEST

American Ship Models and How to Build Them - V. R. Grimwood, N.Y. 1942 - $7.00
Built-Up Ship Model - Chas. Davis, Salem, 1933. Marine Res. Soc. Pub. 12.00
Ship Models - E. K. Chatterton, The Studio, London 1923, Ltd. Ed. #294 15.00
For Sale by Thomas Hornsby, Cheltenham, Pa.

INTRODUCTION OF NEW MEMBERS

BROWN, BRIAN, c/o "CHANGING TIMES", 1729 H Street, N.W., Washington (6) D.C. reports that he is interested in shipbuilding, seamanship and navigation (all sail), is a model builder and interested in all periods of research. He has an extensive library and is presently completing an exhaustive study of Griffiths SEA WITCH.

BURTNER, PROFESSOR EVERS, c/o Massachusetts Institute of Technology, Department of Naval Architecture & Marine Engineering, Room 5-420, Cambridge 39, Massachusetts-- Is interested in early forms of marine propulsion and steamships of historical importance. He has offered to cooperate with members interested in this field of study.

COCHRANE, E. L. (Vice Admiral USN Ret.), Vice President of Industrial and Governmental Relations, Massachusetts Institute of Technology, Cambridge 39, Massachusetts -- has been of great assistance in the placement of our JOURNAL in the Library of Engineering where it will be available for faculty members and students of Naval Architecture and Marine Engineering.

COLLIER, JAMES W., 4802 Park Avenue, Richmond, Virginia -- is interested in the modern school of merchant ship design e.g.,Freighters, tankers and tugs. Mr. Collier is a skilled modelbuilder and member of the Richmond Ship Model Society.

HENDERSON, Jr., J. WELLES, Maple Hill Road, Gladwyne, Pennsylvania -- Is most interested in marine lore of sailing days and especially anything relative to the Philadelphia area.

HOLMES, B. M., 44 Park Hill Court, Staten Island (4), New York City, New York -- informs us he has an unlimited Master Mariners License and is presently serving as Second Officer on one of the United Fruit Company ships. He is a model builder and is presently working on a 1/8" - 1' scale model of the CONSTITUTION.

ISHERWOOD, MRS. MARION GLARDON, 69 Halcyon Terrace, New Rochelle, New York - - advises she is a housewife and builds models of frigates and modern passenger ships whenever she has an opportunity.

LANDRUM, JOHN W., 3740 Fifth Avenue, Apt. #1, San Diego, California -- We are waiting for his membership report to present details of his field of study, but in the meanwhile would guess he is a "plank & rib" ship model builder.

ROBERTS, B. L., Box 78, Red Rock, Ontario, Canada -- states that model ship buildin, has been his hobby for some years and is anxious to keep abreast of current techniques.

WOODSON, JOHN W., 6225 Jeffrey Road, Richmond, Virginia -- is a marine artist, model builder, photographer and is interested in research pertaining to the more obscure ships, particularly early steam ships and the later periods of sail craft. He is also President (Captain) of the Richmond Ship Model Society.

ROSTER ADJUSTMENTS

BITTNER, GERALD, R.R. #1 Box 246, Cedar Lake, Indiana
CHRISTENSEN, ARNE, Kirkegade 15, RANDERS, Denmark
HUYCKE, HAROLD D., 910 North Stadium Way, Tacoma 3, Washington
KLINGLER, HENRY C., 79-09 Calamus Avenue, Elmhurst 73, New York
MUMMA M.D., DR. JAMES F. - 158 Bay State Road, Boston, Massachusetts
MAINEVI, ROGER P. - - 1410 Alki Avenue, Seattle 14, Washington
SHERWOOD III, THOMAS K., Old Neck Road, Manchester, Massachusetts

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NAUTICAL RESEARCH GUILD

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SECRETARY'S REPORT TO MEMBERS

Established 1948
By Harry D. Hamilton

The NAUTICAL RESEARCH JOURNAL is published by members of the Nautical Research Guild. Membership dues, including the Journal are $5.00 a year. New members will receive the numbers which have been previously issued in current year.

Dues are payable January First of each year and are in force until the written resignation of a member.

Opinions and assertions appearing in the Journal are the private ones of the writers.

SECRETARY-TREASURER, James W. Harbin, Jr., 4110 Beall St.,Landover Hills, Maryland
MEMBERSHIP CHAIRMAN, Willis L. Nye, 3038 Bridge Street, Hayward, California
ASSISTANT SECRETARY, Thomas Hornsby, 537 Boyer Road, Cheltenham, Pennsylvania
ASS'T.CHAIRMAN MEMBERSHIP COM., F. J. WatsonJr., 205 David Dr.A-1, Bryn Mawr, Pa.

The Secretary would like to present for your thoughtful observation that this issue of the JOURNAL marks the completion of a rather eventful year. Just about this time a year ago, members of the NAUTICAL RESEARCH GUILD were still in a state of shock following the sad passing of Secretary/Founder Harry D. Hamilton - and prospects for the successful continuation of the organization were extremely doubtful. However, a few members and officers of the GUILD rallied to the aid of the newly appointed (and novice) Secretary and helped him over the rough spots until the remaining members could be advised as to existing problems. The obvious result of everyones participation in helping to continue carrying on the program of mutual aid in matters of nautical research is marked by the growth of the JOURNAL from its eight page beginning to the present size.

There is no doubt about it that we can do even better in the year to come because some of the initial vexing problems have been solved satisfactorily and there is no other direction to go except forward. We are all deeply grateful to the members who have worked so hard to make the results of their research available to other members and there is every reason to believe that future issues of the JOURNAL will feature many new contributors. Please remember that N.R.G. and the JOURNAL exist 'at' and 'for' your pleasure and research. If there is something you would like to see reflected in the pages of the publication - all you have to do is send it in.

The next number of the JOURNAL will feature some very interesting -though less lengthy - articles that have been waiting for a favorable opportunity to present. There will be an article on the Colonial Navy by Winthrop Pratt, an article on rope by Tom Hornsby and if space is available - something on rigging details by several members. Later on in the year, we have been promised some unusual material that will prove of great interest to all hands. There will be more about this later.

ROSTER ADJUSTMENTS (continued)

SMALLEY, PVT. KENNETH C.- (US 51335583), G-2, USARAL, APO 949, Seattle, Washington
STEVENS, PVT. JOHN R. - (US 51348088), Class 4S, Battery "A", 879th Field Artillery Battalion, 69th Division Artillery, Fort Dix, New Jersey
WESTON, RICHARD W. - Rt. 5, Box 141B, Porterville, California
WILSON, JAMES - 9038 Callita Street, San Gabriel, California

We regret deeply to announce the death of Mr. Carleton D. Morse of Needham, Mass. early in June. His associates in Whaling Research will miss his cooperative efforts.

Mail has been returned from the following members with no forwarding address noted:
Arthur C. Johnson (formerly) Briganteen YANKEE, c/o Johnsons Book Store, Springfield, Massachusetts
Charles D. Valpy -(formerly) 4964 Angus Drive, Vancouver, B.C., Canada
Please advise the Secretary if you know the correct address of the above.